Gleanings in Bee Culture

Established 1873

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The Monthly Honey Market

U. S. GOVERNMENT REPORT

Information from Producing Areas (last half of August).

California Points: Southern California—The weather has been generally warm, with no rainfall reported. Except in irrigated areas there is little upon which bees can feed, though they are working lightly on goldenrod, blue curl, and occasional buckwheat. In the most favorable sections colonies are gaining a little on buckwheat, but generally the fall flow is poor and in some sections heavy starvation is in prospect if feeding is not done. Although prices have showed little change during the past two weeks, a weaker undertone is evident due to the competition of midwestern honey, which is being offered at comparatively low prices. Sales reported by beekeepers in ton lots or more, at Southern California delivery points: white orange, few sales 5¼-5½c per lb.; extra light amber sage-buckwheat $5.40-5.50, few low as $5.25 per case of 120 pounds; white sage, 5¼c per lb.

Central California—Warm weather has continued in the interior valleys, with a number of partly cloudy days reported. Morning fogs occurred along the coast with very light rainfall in some coastal areas and at higher elevations.. Hundreds of colonies were moved into cotton locations from counties further north where the flow was negligible, yet the output of alfalfa-cotton honey may be less than 50 percent of normal. In spite of the light crop the market has been dull. Sales by beekeepers in ton lots or more at central California delivery points reported, light amber to extra light amber alfalfa, bean, lippia and mixed flowers mostly 3½c, some 3¾c per lb.; amber mixed flowers 3-3¼c, small lots light amber alfalfa-cotton 4c per lb. in new cans. Sales delivered Los Angeles, San Joaquin Valley, light amber to extra light amber cotton-alfalfa $4.25-4.35 per case of 120 lbs.

Northern California—Warm weather has been general in the interior valleys, with morning fogs and some rainfall in coastal areas. Star thistle, alfalfa, poppy, and a few miscellaneous blooms are available for a late flow, but the surplus flow is about over. The alfalfa average is reported by some beekeepers as around 30 lbs. to the colony, with the star thistle average around 20 lbs. Sales by beekeepers in ton lots or more at Northern California delivery points, per lb., extra light amber star thistle mostly 4¼c per lb., occasional sale higher; light amber to extra light amber alfalfa and mixed flowers 3½c, some 3¾c; amber mixed flowers 3-3¼c per lb.

Pacific Northwest: West of Cascades—Temperatures during the early part of the period were above average, but they dropped considerably during the last 10 days. Earlier fires in Northwestern Oregon have burned over much of the original fireweed area and the smoke has also contributed to a short fireweed crop. Late reports indicate that the fireweed crop may be the smallest in several years. Colonies that were moved into the low altitudes of the area may show as much as 50 pounds surplus, but colonies in the higher altitudes that were not destroyed by forest fires may not produce more than 15 or 20 pounds. And bees left in the fireweed sections throughout the year may have little more than enough honey to carry them through the winter. The quality of this year's fireweed honey is being lowered in some sections by the bees bringing in some thin bitter honey from pearly everlasting. Aphis are bad in some areas. Some mixed fireweed and amber wild flower extracted new crop reported sold at 4c per lb. at shipping point. No new crop fireweed yet reported sold, but beekeepers are said to be asking 6½c per lb. for white fireweed, 5½c for light amber. Willamette Valley extracted clover reported sold at 4¼c per lb. delivered Portland. The beeswax market is slightly stronger, and dealers are paying 16c per lb. cash, 17c per lb. trade delivered Portland.

East of Cascades—Cooler weather at the close followed earlier hot, dry weather. Second-cutting alfalfa is over, and sweetclover flow is declining. The honey flow has slackened and many colonies are barely making a living. However, if the weather continues favorable a moderate flow is expected from third-cutting alfalfa. The general crop production has been spotted and opinions differ as to whether the yield is larger than that of last year or not. While many beekeepers report a crop lighter than last season, others secured more honey than in 1938. Considerable honey was held over in this area and total supplies are therefore rather heavy. Some new crop white sweet clover-alfalfa quoted at 5-5½c per lb. delivered either Portland or Seattle, light amber 5c per lb. Old crop light amber sweet clover-alfalfa reported sold at 4½c per lb. delivered Seattle.

Intermountain Region: Much of the remaining honey from the 1938 crop has now been cleaned up. Sales of white to water white sweet clover-alfalfa, 1938 crop, have been reported at 4¼-4½c, mostly 4¼c per lb. New crop honey is moving fairly well locally, but most distant sales have been in truck lots. Sales of white to water white sweet clover-alfalfa ton lots, have been reported at 4½-5c per lb.; some white to extra white 4¼c, including some sales on an uncased basis at 4¼-4½c per lb.; 60's 5-6½c per lb., few 7c, small pails 6-7½c, few 7¾c per lb. 1 large lot amber wild flower at 3½c per lb. cans returned. White comb honey has moved at $2.75-3.10 per case and chunk comb honey in case lots at 8c per lb.

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SUMMARY—Temperatures have remained rather persistently above normal over most of the country during this period, except for limited areas in the southern Plains and Southeastern States. Rainfall has been heavy along the Eastern Seaboard, and substantial precipitation is reported also in spotted portions of the central and southern States. Most of the western part of the country, however, remains exceedingly dry. Prospects for a fall crop are irregular, but throughout the East beekeepers are hopeful that colonies will at least secure enough late honey for their winter needs. Late reports from the important producing areas tend to confirm earlier reports of the extremely spotted nature of the main honey crop. This is especially noticeable in the Plains Region, where the eastern portions of the States generally obtained an excellent crop, while only a few miles to the west short crops were obtained. The Buckwheat crop in New York State is sharply below normal because of lack of rainfall. Damage done by grasshoppers has been more widespread this year than usual, even northern Vermont reporting that damage to clover plants has been sufficient to curtail prospects for next year. Damage from spray poisons of various kinds has also been widespread, losses being especially severe in Utah. Not only does the size of this year's honey crop vary more widely than usual in the different producing areas, but the quality of the extracted honey also seems to be more irregular than normal. More honey than usual seems to be of rather thin body, suggesting that it may have been taken off before thoroughly ripe. On the other hand, occasional beekeepers report that their White honey is so thick that they have difficulty in extracting it shortly after removing it from the hives. The color of the 1939 main crop is also variable, but generally it is at least White in color. Undoubtedly the crop as a whole is sharply below that of last year in volume, though how much below is still a question.

Remaining lots of 1938 crop honey have been cleaning up in most areas, though at reduced prices. The low market level of recent months is coloring early transactions for new crop honey in spite of the short crop. In the Plains States sales have been made at prices even below those prevailing a year ago, in an effort by beekeepers to dispose of their honey promptly. One result of this was to weaken the market trend in California, which in the past has often been accused of being the producing area that was responsible for the low prices of the remainder of the country. In the White Clover Belt, however, there is a slightly firmer undercurrent, and a feeling of optimism for higher prices appears to be more persistent than in the rest of the country. Comb honey is in very light supply and in demand.

Monthly Report of Honey Producers

Late in August we sent the following question to honey producers: 1. What is the final average yield per colony to date this season in your locality of (a) Extracted honey? (b) Comb honey? Give answer in pounds. 2. How does this compare with the average yield for your locality? Give answer in per cent. 3. At what prices has honey been sold or contracted for, if any, in large lots (carload or less) in your locality, during the past month, for (a) Extracted honey, per pound? (b) Comb honey, Fancy and No. 1, per case? 4. What are prices when sold to grocers in case lots of (a) Extracted honey in 5 lb. pails, or other retail packages in terms of 5 lb. pails? (b) Comb honey, Fancy and No. 1, per case? 5. What is the retail price to consumers in your locality for (a) Extracted honey in 5 lb. pails, or other retail packages in terms of 5 lb. pails? (b) Comb honey, Fancy and No. 1, per section? 6. How is honey now moving on the market in your locality? Give answer in one word, as slow, fair, or rapid. 7. What is the condition of the colonies for winter in your locality compared with normal, considering the number and age of bees and the supply of stores? Give answer in per cent.

State	Name	Aver. yield. Per Colony locality Ex.	Comb.	Aver. Yield	Large lots. Ex.	Comb.	To grocers Ex.	Comb.	To consumers Ex.	Comb.	Movement.	Cond. of colo.
SE-Ala.	(H. C. Short)						.50		.60		Fair	100
B. C.	(A. W. Finlay)	50		70	.09		.65		.85		Fair	100
S-Calif.	(L. L. Andrews)	25	0	30					.65	.25	Fair	75
C-Calif.	(Davis Bros.)	40		40	.04½				.47		Fair	90
SE-Colo.	(Otis E. Adcock)	0	0			3.37	.43	3.75	.55	.20	Fair	100
E-Conn.	(Allen Latham)	5-70	40	100			.75	5.00	1.00	.29	Fair	100
S-Fla.	(C. C. Cook)	70		100	.04		.35		.50		Slow	100
C-Fla.	(Harry Hewitt)	80		130			.33		.49		Slow	100
SE-Ga.	(J. J. Wilder)	70	60	10	.06		.50		.65		Slow	100
NC-Ills.	(A. L. Kildow)	50		50	.05				.50		Fair	100
NC-Ind.	(T. C. Johnson)	40	30	60			.50	3.00	.60	.15	Slow	75
NW-Ind.	(E. S. Miller)	60	40	90			.50	3.00	.65	.15	Slow	100
W-Iowa	(E. G. Brown)	200		125	.04½		.35		.45	.12½	Rapid	110
N-Maine	(O. B. Griffin)		25	70				4.50		.25	Slow	100
N-Mich.	(Ira D. Bartlett)	75	20	50	.05		.43	3.20	.59	.18	Fair	75
S-Mich.	(Floyd Markham)	125		100	.05	2.75	.50	3.00	.75	.20	Fair	100
E-Minn.	(Floyd W. Ray)	125		125	.04¾		.35		.45		Fair	100
W-Minn.	(B. L. Morehouse)	125		100	.05¼		.45	3.00	.60	.20	Fair	100
W-Nev.	(Geo. G. Schweis)	60	20	40	.05	3.25			.55	.20	Fair	100
W-N. M.	(C. A. Baltzley)	125	35	120	.06	2.25	.45		.60	.21	Fair	100
NW-N. Y.	(Geo. B. Howe)			35	.06	3.60		3.60	.70	.25	Fair	90
C-N. Y.	(N. L. Stevens)	40	0	50	.05				.50	.15	Fair	80
NW-N. C.	(C. S. Baumgarner)		20	50			.65		.80	.20	Slow	75
SE-N. C.	(W. J. Martin)	50	30		.05¾		.55		.75	.20	Fair	100
C-Ohio	(R. D. Hiatt)	60	35	40	.06½	2.25	.47	3.50	.65	.19	Fair	100
NC-Okla.	(C. F. Stiles)	50		90			.45		.64		Fair	85
W-Ore.	(H. A. Scullen)	100		110			.38		.49	.15	Slow	
C-Pa.	(Harry Beaver)	35	0	35	.05		.50		.60		Fair	80
SE-Pa.	(D. C. Gilham)	5	0	5	.06½		.70	4.00	1.00	.25	Slow	60
SE-S. D.	(J. F. Norgren)	90	75	100	.04½		.43		.55	.15	Slow	100
S-Texas	(H. B. Parks)	20		50			.47		.55		Fair	60
N-Utah	(W. H. Hendricks)						.43		.50		Fair	90
S-Va.	(T. C. Asher)	40	30	50			.50	3.50	.69	.20	Fair	90
SC-Wash.	(Chas. Higgins)	60		60	.05½			4.80	.49		Fair	80
SE-Wisc.	(N. E. France)	25-90	13-35	75	.05		.40		.45	.12	Slow	75
N-Wyo.	(Earl C. Reed)	60		50			.45		.55		Fair	100

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NO 758 - 16 OZ HONEY - 58 3/4
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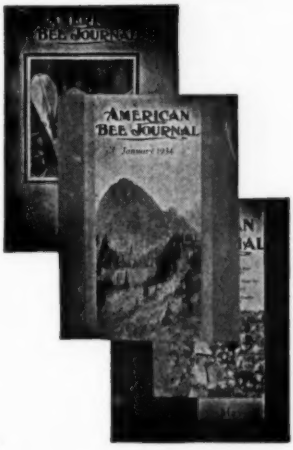

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Vol. 67
No. 10

Gleanings in Bee Culture

October
1939

Mid-winter Brood-rearing Desirable

H. J. Rahmlow
Secretary Wisconsin Beekeepers' Association

Judging from the comments by beekeepers in Gleanings recently, there seems to be quite a difference of opinion as to whether or not bees rear brood in midwinter, or if it is desirable for them to do so. This is surprising when we consider the many years during which bees have been kept in colder climates, and the fact that it is not difficult to determine exactly what bees do by simply opening up normal colonies in midwinter to see what is going on.

Perhaps the reason for this confusion is due to the older idea that colonies must be well protected during the winter and must not be disturbed. As a result, few beekeepers ever opened up their hives to see if brood was present or not, unless they did so when something went wrong. Over 25 years ago Mr. N. E. France, in a talk to the Wisconsin Beekeepers' Association, stated that in his opinion it was normal and did not hurt a colony of bees to rear brood in the winter time. He asked those present to examine some colonies and observe if brood was present. This was in January. In those days most colonies were wintered in the cellar, and many present at the meeting did as requested, and found brood in normal colonies.

More recent work by various investigators has shown that normal colonies of bees in the northern states begin brood-rearing in midwinter, usually sometime in January or February.

Why not settle this matter by making some observations for ourselves? A great many beekeepers winter outdoors these days with only tar paper or other light packing. Some mild day next January, why not go into the brood nest without disturbing the colony very much and observe if there is brood present. We predict that this is what you will find:

First, in a strong colony with honey and pollen available, there will be quite a good sized patch of sealed brood, larvae, and eggs.

Second, in colonies which do not have pollen available, where they can get at it, we will find eggs, and perhaps some larvae. **The queen will start to lay eggs whether there is pollen present or not.** The eggs hatch and the bees probably raise some of the larvae to maturity from body reserves. After a small cycle of brood, later eggs are removed, and no more brood is raised by such a colony.

Effect of Dysentery

In making these observations, we must be careful and not confuse the normal brood-rearing of a normal colony with brood-rearing by colonies in some stage of dysentery, during which they spread out more than normally, due to distressed activity. Such colonies may die out entirely. It has been pretty well established in late years that dysentery is caused by bees **feeding on honey with excess moisture,** or on certain kinds of honey which granulates quickly, and the bees eating the liquid portion between the granules which is very high in moisture content. No doubt in very damp cellars honey will absorb moisture and cause dysentery. **Brood-rearing does not cause dysentery** by the bees using too much

food. Rather, the use of improper food causes dysentery which results in abnormal brood-rearing.

In the June issue of Gleanings we called attention to work done at Laramie, Wyoming, and reported by Dr. C. L. Farrar in the May issue, 1934. A few of these points bear repetition here. (1) Colonies requeened with Caucasian queens in October, after brood-rearing has stopped, had Caucasian bees in the spring. The number of Caucasian bees was in direct proportion to the pollen reserves in the colony—the more pollen the more Caucasian bees. This shows that winter brood-rearing took place, and the more winter brood-rearing the stronger the colony in the spring.

(2.) Colonies fed on sugar syrup only, without pollen, had about 24,000 bees in the fall, and only 10,000 in the spring. Colonies given 600 square inches of pollen had about 28,000 bees in the fall, and 26,000 in the spring. Most important of all—more than half of the 26,000 were young bees, best able to do spring work.

One of the best beekeepers in Wisconsin, a man who regularly obtains from two to three hundred pound averages during normal years, has for years been making a practice of placing frames of pollen in the brood-nest late in the fall. We believe that one of the big reasons for his success is that he has strong colonies in the spring as the result of winter brood-rearing, resulting in a maximum population at the time of the main honey flow from clovers.

What Can We Do About It?

This whole question is more important than it at first appears. Whether a beekeeper believes in or condemns midwinter brood-rearing will influence what he does to his colonies in regard to the matter of pollen reserves.

Whether or not we believe in midwinter brood-rearing will influence many of our practices. For example, we have discontinued the old method of "Demareeing" for swarm control because we did not want to remove any frames of pollen from the brood-nest at any time. Consequently, instead of raising the entire hive body to the top of the stack in swarm control as was formerly done—leaving the queen in an empty body with perhaps one frame of brood below—we simply moved up frames of eggs, larvae, and the youngest brood, leaving all old hatching brood and **all frames containing** pollen in the brood-nest. This, of course, requires the use of two hive bodies for the brood-nest the year around.

Any heavy frames of pollen we found during extracting—and there were very few this year—will be put back into the brood nest this fall, or early next spring.

Dangers

We anticipate that some beekeepers who try to strengthen their colonies by midwinter brood-rearing as a result of giving more pollen may lose their colonies entirely. Why? Because the bees may starve to death. Thousands of colonies starve to death each year as it is, simply because the beekeeper fails to leave enough honey for their use or leaves it in the wrong place.

This fall, with favorable weather, a light flow of fall honey, and a good pollen supply, the bees are raising considerable brood. It takes honey to raise brood, and many colonies will be lighter in stores when winter comes than we anticipated. Good weather conditions may also result in the bees bringing in a lot of fall pollen. This will result in winter brood-rearing with increased use of honey in January and February. In our case, we are not going to extract any of our fall honey. We are going to feed it all. Two hive bodies for an over-wintering colony with the equivalent of 10 frames of honey is not too much for a good colony.

Let's Find Out For Ourselves

After watching Dr. C. L. Farrar go through colonies on last January 20, and seeing colonies with two and three frames of brood, and then seeing him manipulate these same colonies several more times during the cold winter months, I have no fear in stating that it will not do our colonies any harm if we take a peek on some mild sunny day next January or February to see if there is brood present. If we do, we may learn even more in regard to the condition of our colonies, especially as to whether dysentery is present, and how they are winterng.

The other day I heard a beekeeper make the remark, "My goodness, but there are a lot of things we know that aren't true." Let's find out the truth.

Madison, Wisconsin.

Fig. A.

Wintering Bees

Chas. E. Phillips

Before Successful Wintering can be Effected, a Mental Picture of What We Would Accomplish is Necessary

For successful wintering a young queen, an abundance of young bees, and good stores are requisite factors, we definitely know. But what of the others? Wind-breaks, hives, insulation and, "allow me", hibernation?

The Encyclopaedia Britannica says: "Apis Mellifica, although they retire to the hive, do not hibernate, the numbers and activity of the individuals within the hive being sufficient to keep up the temperature above soporific (tending to cause sleep) point. Ants also remain actively at work under ground unless the temperature falls several degrees below zero." It does not tell us what it is called at fifty below zero nor how long the ants can "take it". What of the bees at fifty below? Our generally accepted theory is that they become active and keep the temperature at a harmless degree. If this be true, the stores should be very low about March 1 in the northwestern climates. After a winter of 25 to 50 below, my examination of hives on March 1 showed very little consumption of stores. If bees are to make heat, they must consume the carbohydrate and the mortality should be heavy. This, also, is not my experience. In this milder climate of Ontario, we rarely meet zero or ten below and the consumption and mortality, up to March 1, are greater than in western Canada.

I have seen a cinnamon bear in his winter den and as I had only a .22 rifle, he was good enough to wait until I returned with a moose rifle, three days later. He was not asleep but breathed slowly just like the bees I saw at ten below zero. His food, in the form of fat, was on the inside of his skin while the bee's fat (honey) is on the outside. His heat supply is continuously available, but what of the bee? My few hives, in the back of the lot, face me at the dinner table all the year around. Three winters ago, bees came from one hive only, to fly a few feet and die. The snow was peppered for ten or twelve feet. The temperature was 30°— F. I marked this and the date on the hive and wondered. Exactly ten days later this was repeated at about the same temperature while no flight came from the other hives. This was recorded on the hive. Nine days later, in chilly flying weather, the snow was peppered with dead bees. This was recorded. I resolved to learn the cause as soon as spring came, fully expecting disease or a shortage of stores. The only reason for this was a space the thickness of the hive tool between the food chamber and the brood chamber, at the front only.

My observations compel me to associate this opening and the ten-day flight with the feeding time of the bees. But why the mortality? Frogs and fishes may be frozen into a block of ice and if thawed out very slowly, without undue exposure to sun and air, will suffer no apparent harm. It is not so much where they have been, that is important but it is how they got there and got back that counts. What of the frogs, queen wasps and bumblebees in a fifty-below climate where frost enters the ground to a depth of eleven feet? These queens make no pretense at burrowing below the frost line but they do find a dry, draftless place away from the sun's rays. I wintered a queen wasp and found that she stepped over her wings and drew them close to her body insuring them against damage. At twenty below zero the wings would be brittle and the least touch would break them into uselessness. The whole body of the wasp must be as cold as the thermometer, so where does life go to? If the bees reach these low temperatures, they would be wingless by spring if they crawled about at all. But back to my calamity hive.

With a low entrance and a hive crack, the varying temperatures and winds circulated against the insulating bees on the outside of the cluster, the changes were too rapid and —but wait a minute, a third speculation has to be brought in here.

A BEE TOLD ME: "You know we are always generous with our family in opening our honey-sack to anyone who challenges. In the winter we all

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take a good fill-up and for a while everybody sits around the cluster very quietly, except those on the outside. If they feel a little too cold, they dig IN toward the center. We, in the center, although breathing slowly, feel the need of a little fresh air, so we dig OUT. We are something like a man. 'As a rule, man's a fool, when it's hot, he wants it cool, when it's cool, he wants it hot and never satisfied with what he's got. As a rule, man's a fool.' Thus, you see that we who do the most digging use up our load the quickest and we begin to challenge. As the challenges increase, we become panicky. When the starvation excitement gets high, so does the whole hive temperature and the rest is easy. We fill up again and rest quietly. Our sacks generally run us ten days."

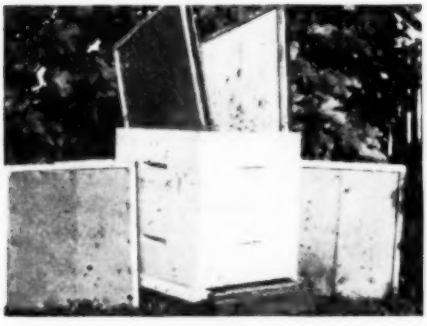

Fig. B.

Enc. Brit.:—"At moderate temperatures ranging from 45 to 50°—F. dormice and hedgehogs alternately wake to feed and sink into slumber. Dormice awake once in twenty-four hours; hedgehogs may sleep two or three days. Respiration appears to be totally suspended in animals in a complete state of hibernation, if left undisturbed. It may, however, be readily re-excited by the slightest stimulus, and to this fact may perhaps be attributed the belief that breathing does not actually cease."

We are all aware that a dying bee makes a frantic effort to leave the hive and when the cluster breaks, the hive warms up, permitting the suicides to drop in the snow. When a strong colony, with abundant supplies, is found dead, the generally accepted theory is that the weather was too cold for them to move. My experiments do not agree with this. First, let me foundation my remarks with the kind of entrance. No entrance should be less than the width of the bottom-board but should be narrow to exclude mice. Because bees have their own system of air-conditioning, a restricted entrance may be dammed up by the dead dropping from the cluster formed immediately above and cause smothering.

No floor-board should be included in the packing, either by being insulated or placed into the packing case. Why? A BEE TOLD ME;—"Sometimes, in the winter, a warm day snaps in and since we have had no relief for a long time, all are anxious to evacuate in flight. A hive that is not packed, warms quickly on all sides. If the bottom-board sets on a closed stand or is insulated, the air does not warm it up and the first bees chill and jam the narrow entrance, thus suffocating us all. It takes the heat a long time to get to the bottom of the chamber. It's also a big job to establish ventilation fast enough to accommodate a fast-breaking cluster. With very few dead bees clogging the entrance, suffocation takes place in a matter of minutes."

Fig. C.

Another factor that is important, yet seldom noted. It goes with abundant stores. Honey and wax, as we all know, retain heat for an unusual length of time. In the cooling down of the hive contents, they have a thermostatic effect in allowing the cluster to get organized. Respiration and circulation are slowed by easy stages without damage to the body tissues. The honey and wax have a stabilizing effect also when the process is reversed and the bees are coming out of cluster. This thermostatic value is just what a crack in the hive hasn't got. As with the fish and frog, sudden changes must be avoided. **Therefore, not only ample but abundant stores exert a greater stabilizing influence.**

I have played "strip poker" with the bees for seven years, have tried to freeze them by putting an empty super on the bottom-board below two framed supers.

In picture "C" the two unwrapped colonies wintered just as well as the wrapped ones. The windowed hive showed that the bees clustered in the lower chamber until after Christmas. They did not go up to the "warmer" part, the second chamber, until the stores were needed.

Another experiment: Picture "B" shows four insulating boards, only two of which were used on the inside, after removing two frames from each hive-body. Results were satisfactory but later discarded.

Picture "C" shows three hives with a sort of overcoat that can be put on or removed in five minutes. It is made of corrugated paper glued to eight-ounce duck and the duck water-proofed with equal parts of raw linseed oil and beeswax, heated together. "This mixture is splendid to put screws into hardwoods as in boat building". The entrance blocks are attached to the overcoats. I like these after five years' use but feel they are unnecessary. The two hives nearest show the joints covered with tape and a full-width mouse-proof entrance block. It will be seen that the two colonies in Picture "A" nearest you have three chambers. The bottom one was empty. The theory of too much space for the bees to keep warm is not noticeable with the empty chamber.

Middle, top and bottom entrances all have their friends but I am convinced that a full-width ⅜-inch entrance two to four inches above the bottom-board will never suffocate a colony or be easy for the mice. Ice will not form high enough to block it. This can be made by a rim nailed to the bottom-board providing a space for dead bees.

Tar-paper winter packing has followed the "strip poker" route. It must be clear to all that no great amount of insulation goes with it. Its chief value is insurance against ill-fitting equipment. If we arrange our hive bodies for winter, early, while propolis is still workable, the bees will put a more water-proof and wind-proof sheet on the inside. A wind-break is always valuable.

I like to winter in these units:—

(1) An insulated, metal-covered hive-lid with a three or four inch rim.

(2) A four-inch shaving rim with a carpet bottom tacked inside and an inch above the frames, this to absorb moisture and keep lids from warping.

(3) Two brood chambers.

(4) An empty two-inch rim nailed to the bottom-board. Scrape this clean on the first spring examination.

(5) A ⅜-inch, full-width entrance above the front section of the bottom-board rim.

(6) A hive-stand with plenty of room for air to circulate under the bottom-board.

As bees have wintered, so shall they "spring" forward to up-building of colony strength upon which depends, the getting of the major part of the honey-flow. If they have "springed" all winter, they will "winter" all summer.

St. Catherines, Ontario.

The Michigan Beekeepers' Association and the Michigan Beekeeper magazine jointly sponsor a talented five-piece band known as the Honey Harmonizers.

The band consists of Verna Clark, clarinet; Charles Clark, trombone; Roxabelle Clark, alto saxaphone; Adah Clark, baritone; John Clark, drums—brothers and sisters of one family and nieces and nephews of the Michigan Beekeeper editor, Elmer Carroll.

These youngsters furnished the music at the State Annual Meeting, East Lansing, last February, at the Wayne County Meeting, Detroit, in May; and accompanied the main speakers on the complete tour this summer on August 2, 3 and 4.

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Removing Honey by Smoke Method

W. H. Hull

One Way of Taking Off Honey Quickly and Easily

Since practical methods for driving bees with carbolic acid have been developed, those who have adopted this plan are apt to think it the only practical one. When we investigate we are therefore likely to be surprised at the number of beekeepers who do not use it. And their reason is not always a fear of tainting the honey. In talking with a large comb honey producer recently, he said:

"No, I don't use carbolic acid. We tried it last year but found it too slow. We get along better with smoke."

As he produces about 40,000 pounds of fine section honey a year we must admit that he knows about what he is talking.

His plan is based on the fact that in a yard that has not been disturbed for several days it will take bees 15 or 20 minutes to start robbing, even when honey is exposed in the open. Using an open-body truck that will carry about 50 filled supers, he goes into a yard with two helpers, removes that number of supers, loads the truck and gets away before the bees find out what is happening. To do this it will be seen that each man must take off and load about one super a minute. This leaves only a short period for applying smoke—not more than 10 or 15 seconds. Naturally, not all the bees can be driven out in that time. When most of the bees are out, the super is pulled off and stood on end in the open, while the operator passes on to the next. In this way the required number of supers are removed in a very few minutes.

It is then time to begin loading. Meanwhile the bees left in the supers when they were removed will be returning to the hive, and will not have found their way back to the exposed supers in any number. The result is that when the supers are loaded there are very few bees left in them and before robbers can get fairly to work on the load it is completed and gone.

At the honey-house these supers are stacked in open piles, which allows the bees that have remained in them to find their way out, and also leaves the supers ready for sulphuring to kill moth larvae. Honey-house

Smoke is applied for about 15 seconds, which drives out most of the bees. Supers are then stood on end on the ground until loaded. This allows most of the remaining bees to leave. The job must be completed within 15 or 20 minutes to avoid robbing.

Applying the smoke. This extensive honey producer prefers smoke in removing honey to carbolic acid because the smoke is faster. (He is Chester A. Bass, of Front Royal, Va.)

windows are equipped with bee escapes and a nucleus placed just outside to attract the stray bees as they emerge. The bees salvaged in this way from 1000 supers make about one good colony.

Some precautions should be observed in using smoke. The points to guard against are: 1, Tainting the honey with smoke by using too much; 2, blowing specks of ashes onto the surface of the comb. Tainting the honey with smoke is avoided by smoking briefly, then standing the super out in the open for several minutes to allow remaining bees to leave of their own accord. Specking the comb with ashes is avoided by dumping the smoker frequently. For example, using planer shavings for fuel, each man dumps his smoker twice in removing honey for a load of this size—from 15 to 20 supers per man.

The fact that we have 15 or 20 minutes of free working time in an apiary that has not been disturbed recently is a good thing to remember. For that length of time we can work as freely during a complete dearth of honey as we could in a good honey flow, provided only that we complete the job and get away before the period of grace expires. To expose honey during that period when there is further work to do afterwards is courting trouble.

Vienna, Va.

CLEMSON BEE SHORT COURSE

Prof. D. Dunavan

The first beekeeping short course ever held in South Carolina was held at Clemson Agricultural College on August 23 and 24. A total of 75 people registered for the course, 55 of whom are actual beekeepers in the state. Beekeepers from all sections of the state came and a great deal of interest was shown.

The instructional work was given by Prof. David Dunavan, of the Entomology Department of the College. The course was built mainly on such topics as modern apiary management, extracting and packing honey for market and the bee diseases and ailments. Much interest was manifested in a series of microscopic demonstrations of various parts of the bee. The entire course was so enthusiastically received that it is hoped considerable good will come from it.

Invited speakers were A. V. Dowling, State Apiary Inspector of Georgia; J. A. Berly of the S. C. State Crop Pest Commission, and C. L. Adams, Chemist of the S. C. Department of Agriculture.

One of the high lights of the course was an evening of entertainment with plenty of mirth furnished by the rapid fire jokes and stories of Dean D. W. Daniel, long-time member of the College teaching staff.

Time was taken out for a statewide meeting of the Palmetto State Beekeepers' Association, the official state organization sponsored by E. S. (Ned) Prevost, Extension Bee Specialist. During the meeting the newly adopted state honey label and honey jar came in for considerable discussion. The Association went on record as urgently requesting another short course at Clemson next year. Mr. T. P. Caskin, newly elected president of the organization and one of the largest beekeepers of the state, said of the course, "We had much better attendance than any of us expected and there was more interest shown in this meeting than in any other beekeepers' meeting I have ever attended in the state."

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Moisture in the Beehive

John Conner

Why Top Entrances May Be as Valuable During Summer as Well as in Winter

The discussion on top-entrances that was in progress for several months in the pages of this magazine was unusual in at least two respects. First, for the keen interest exhibited by such a large number of beekeepers in one subject and, secondly, because throughout the dominant theme has been one of theory. There was an entire absence of any definite plan or photo of a top-entrance device, instead to a large degree, all the confab had concerned opinions as to what goes on within a beehive. Although such an attitude is somewhat unusual among beekeepers in this day and age it is a sign of a good healthy condition. In the long run perhaps the greatest gain may be made by this course. If some one had presented a specific plan and it had been tried by many without a thorough understanding of its basic workings the principles themselves would be condemned if it were not successful. On the other hand, if a set of principles can be determined by discussion and widely understood some one is quite likely to perfect a plan that will be superior to any now existing.

The point about which the greatest doubt has been indicated concerns the question of humid air being lighter than dry air. Many have incorrectly expressed the opinion that exactly the reverse is the case and that air when containing water vapor becomes heavier (therefore, dropping to the hive bottom and in so doing preventing the action of "natural laws" claimed to occur when the entrance is at the top only). At first thought it is the most natural thing in the world to think that when vapor of a heavy substance such as water is combined with air it would make the mixture very heavy also. It must be remembered, however, that when two substances are united the combined volume is usually greater than of either one alone. Such is true in this case and in addition water vapor exerts an expansive force that dry air does not, the actual result being that a given volume of air when saturated with water vapor weighs less than the same volume of pure dry air at the same temperature. If accurate figures are desired in support of the above statement one pound of pure dry air at 32 degrees Farenheit (freezing) has a volume of 12.388 cubic feet, and when combined with all the water vapor it can hold at that temperature one pound of the mixture has a volume of 12.414 cubic feet. At a higher temperature when the holding power of air is considerably increased the ratio in difference of weight between dry and saturated air is also greatly increased. At 95 degrees Farenheit, for example, which compares with the super temperatures on an average summer day, the figures are as follows; for one pound of pure dry air the space occupied is 13.979 cubic feet and for one pound of the saturated mixture 14.275 cubic feet. It should be understood that these figures are for water vapor when in a completely invisible gaseous state, not as partly condensed droplets. They can be verified by consulting a reference book.

The usual feeling among most beekeepers is that granting the correctness of the above it is simply something of academic interest only and can have no practical value or application in actual honey production. Such an opinion is not arrived at by sound reasoning. In every form of human accomplishment man has had to be governed by natural laws. Certain of these laws permit of some modification but none can be ignored and on the whole the more fully they are followed the better will be the results obtained. In practical beekeeping there are three problems, known to be influenced in some degree by ventilation, that control the methods, costs and success of beekeepers in practically every area. In some years and in some areas one or more of these three troubles may prove unusually bothersome or exactly the reverse depending entirely upon local conditions. These three problems are wintering, swarming, and proper ripening of honey. If it is conceded that moisture-laden air is lighter than dry air can it honestly be said that there is no application of this principle in practical beekeeping until it has been given an exhaustive trial with regards to each of the above problems?

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As a wintering device the top-entrance has received its greatest acclaim because it uses this natural law to drain off the moist air as created by the bees. That the top-entrance has thus found considerable support is attributed to two reasons; the first, that it interferes less with the regular practices of the beekeeper, and, secondly, because moisture and its results when present in a standard hive in winter **can be easily seen.** During the winter period the production of moisture by the colony is the lowest of any season being about one gallon of water (in vaporous form) for each gallon of honey consumed. Because of the low temperatures prevailing this vapor is easily condensed into actual water. Although small in quantity, if measured by the gallon, this water is nevertheless a very real and widely recognized cause of heavy winter losses largely because its presence is in such a prominent form.

As a producer of water vapor a good strong colony of bees actively working during the summer months should receive more consideration than is generally given. The same law of a gallon of water vapor produced for each gallon of honey consumed still holds good, but the consumption is increased many times over that of winter. If nectar is about two-thirds water then there will be in addition about two gallons of water vapor evaporated for every gallon of honey produced. Add these two together and in a strong colony it is apparent that the amount of water vapor given off runs into the hundreds of pounds sometimes within a few weeks' time. This ignores the large amount of water brought in for brood rearing and evaporated in the process. Consider also that this must all be expelled from the hives by the bees against its own natural tendency to rise and we can begin to realize the amount of work bees are required to do. We do not usually look at the matter in this light but if water vapor possessed a color similar to smoke it would be more forcefully brought to our attention. As the temperature is higher during the summer season and condensation does not occur we are inclined to forget the production of such quantities of moisture because it is invisible.

It seems highly conceivable that any container such as a tall beehive with only an opening below will have under normal conditions a relatively high humidity within itself even if the external air is comparatively dry. In absence of proof to the contrary it is also reasonable to suppose that the upper portions of a hive has a higher humidity than that near the lower entrance. It is usually just in this part of a hive that the nectar to be evaporated must be placed, a condition apparently not best in accord with the laws of nature. Such an arrangement is just as illogical as putting a boiler in the attic and pumping the hot water down through the heating system. That nectar is ripened at all is only because the bees are forced to do excessive work. The design of the hive hinders rather than aids the process. If we had to work under the conditions of high humidity and high temperature prevailing in a standard hive we would promptly want to quit and go elsewhere to secure more satisfactory conditions. Who can say that a great deal of our excessive swarming is not brought about by a similar desire on the part of the bees because of unsatisfactory working conditions?

If nothing else in a hive is changed from standard construction but the position of the entrance, and this being placed at the extreme top, with the supers at the lowest part and the bottom entirely closed conditions would be so changed that water vapor from any part of the hive would naturally rise and leave being exchanged for fresh dry air which would drop down to replace it without effort on the part of the bees. In such an arrangement the nectar being evaporated is stored below the brood nest in the driest part of the hive. Even if the outside air is temporarily at a higher saturation point than the supers as long as the bottom is tightly sealed this moisture will not readily affect this part of the hive, a highly desirable condition in ripening honey.

The point to be brought out here is that although the top-entrance is usually considered as a winter device only, its greater value might be for summer use. In both theory and actual use the top-entrance seems to have many superior points. One big drawback to its extensive adoption especially in summer is that the habits, customs and routine of the average beekeeper will have to be

(Continued on page 655)

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The Effect of Heating Buckwheat Honey

E. F. Phillips

In an earlier article brief mention was made of the increasing turbidity and the changes in color in buckwheat honey after heating, even for a short period. This is so important a question to beekeepers of the area in which buckwheat honey is produced that further discussion may be useful, and such a discussion is not without significance to all beekeepers or bottlers who heat honey for any purpose. Although buckwheat honey seems to be affected by heating more than any other honey so far encountered, somewhat the same changes in lesser degree occur on heating any honey.

There is considerable variation in buckwheat honey from different producing areas. The "typical" or "old-fashioned" buckwheat honey is produced in central New York, parts of northern Pennsylvania and as far west as northeastern Ohio. Buckwheat honey of this type is also produced in parts of Ontario. The soils of this producing area are derived from disintegrated shales and sandstone, with varying admixtures of lime carried in by glacial action. While buckwheat will grow on acid soils, secretion and the growth of the plants themselves seem better when there is some lime in the soil. If, on the other hand, the lime content of a soil is too high, certain physiological changes occur in the plants, making such soils less suitable for its propagation. In the area specified, buckwheat honey is dark in color and quite opaque, with a cast of color by reflected light which suggests purple. This honey granulates with a fine crystal in most cases and has a distinct flavor.

A somewhat different buckwheat honey is produced in states of the central midwestern part of the United States. Here the soils best suited to buckwheat are sandy and are more acid than soils immediately surrounding the areas where buckwheat is grown. On a summer trip made through Wisconsin some years ago by watching a soil map it was possible to predict when buckwheat would appear and when it would disappear, much to the mystification of a traveling companion. Buckwheat honey from such areas is more transparent. While in general the flavor is much the same, there is a difference which is readily detected by any person familiar with the different honeys. The honey discussed in this article is from central New York.

As was stated in the earlier article, small flasks containing each 50 grams of buckwheat honey were placed in a water bath which was kept at a constant temperature of 160° F. for a total period of three hours and forty-five minutes. The first honey flask was removed as soon as the honey was liquefied, and others were removed at the intervals indicated on the accompanying table, in which some of the effects of heating are shown. It has already been reported that the honey removed from the water bath after only fifteen minutes heating after liquefying was doubled in turbidity, and that the color of the liquid honey was changed from the normal red to a brownish color complex.

In the measurements of colors of honey conducted some years ago in the Bureau of Entomology, which served as a basis for the establishment of the recognized color grades for honey, it was decided to measure the light transmission through honey with a thickness of 10 centimeters. The tables then and since published on honey color grading are given for this thickness. It is well known that the thickness of a sample of honey has a marked influence on color effects produced by light passing through honey. This has a practical bearing on honey bottling, since many bottlers use a somewhat darker honey for their thinner bottles, so that the color of their various sizes will appear about the same.

When color measurements on buckwheat honey are made with a thickness of 10 cm., so little light passes through that contrasts were not clear cut. It was therefore decided to use a thickness of half the previous samples, namely, 5 cm. All of the data hereafter presented are based on measurements with the lesser thicknesses, and they are not comparable with data formerly published on honey color grading.

Instead of using a spectrophotometer, as was done in the former study of honey colors, a Pulfrich photometer was used. Color screens L_1, L_2 and L_3 were used for comparisons, which are respectively red, green and blue in color. The color designations will here be used. Each screen is in turn used as a comparison by means of which it is possible to determine the percentage of red, green or blue light which passes through the designated thickness of honey. Thus 46% for red in the first sample means that of the total light which struck the surface of the honey, all the red light was absorbed by the honey except 46%. In other words, 46% of that light and of that intensity passed through 5 cm. of the honey in question. Further details of the methods used are not here essential, except that the same light intensity was used throughout and all other conditions are fully comparable.

The accompanying table presents the results on light transmission of the same honey which had been heated to a temperature of 160° F. for the length of time indicated for each one. Sample No. 1 was the one which was removed as soon as it became liquid, and is therefore marked as having been heated 0 minutes. This is not strictly true, since it was exposed to the temperature of the water bath long enough to be liquefied. It is given as 0 minutes, because its removal marked the start of the timing of the other samples.

Sample	Minutes exposure	Light Transmission of the various colored lights		
		Red	Green	Blue
1	0	46.0%	22.0%	3.0%
2	15	30.0	9.5	1.0
3	30	19.5	4.5	0.0
4	45	16.5	4.0	0.0
5	75	15.0	3.5	0.0
6	105	14.0	3.0	0.0
7	165	11.5	2.0	0.0
8	225	9.5	1.2	0.0

Notice should be taken of the fact that the time intervals are not equal, but it is evident that there was a gradual reduction in the light transmitted through an equal thickness of this honey which was progressive and fairly constant. The slight amount of blue light which passed through the liquefied sample was soon shut off, and for red and green light, there was a steady reduction in the amount transmitted which continued to the end of the tests. No effort was made to refine the percentages beyond the first decimal point.

These readings fail to indicate a condition which existed in the samples heated for the longer times, namely, that not only were they steadily darkened but also that they became increasingly turbid. Increasing turbidity will obviously cut down the amount of total light transmitted, whereas the figures given are only the readings which are modified by both change of color and change in turbidity. Turbidity measurements were also made on these samples, but these were also not strictly indicative of turbidity, since color changes are a complicating factor. The turbidity readings are therefore not given.

Buckwheat honey producers and handlers will not be particularly interested in the exact percentages here given but only in their import. They appear to mean only one thing, namely, that continued heating of buckwheat honey causes color and turbidity changes which are progressive, indicating that the longer this honey is heated, the more pronounced is the effect of heating. There is no way of telling whether any color change was induced by heating this honey to the point where it became liquid, but even this is not impossible. Sample 1 is transparent and attractive in appearance and the flavor is excellent, so that it may at least be assumed that if changes had occurred, they are inconsequential.

Corresponding roughly with the color changes, there is a change in flavor. It has been pointed out repeatedly that there are no words by means of which flavor can be described, except in a most vague and general way. Hence there is nothing to be gained by an attempt to describe the progressive flavor changes which these honeys show. The first has a typical flavor of liquid buckwheat honey, while progressively the honey becomes inedible. Sample 8 is unfit for human consumption. There is a steady increase in a "burned" taste, to which must be added that it becomes increasingly nauseating and repulsive.

This array of figures on light transmission is not given for the purpose of presenting an abstruse lot of scientific facts but solely so that it may be shown that the changes in buckwheat honey on heating are progressive and at least in part measurable. The practical aspect of such work is merely a recapitulation of

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what many experienced buckwheat honey producers have long known, namely, that the heating of buckwheat honey is a hazardous procedure. Since measurable changes occur after only fifteen minutes heating to 160° F., it seems obvious that any heating of this honey in the honey house should be avoided. It means equally that the methods employed in bottling the lighter grades of honey in modern bottling plants cannot be used for buckwheat honey.

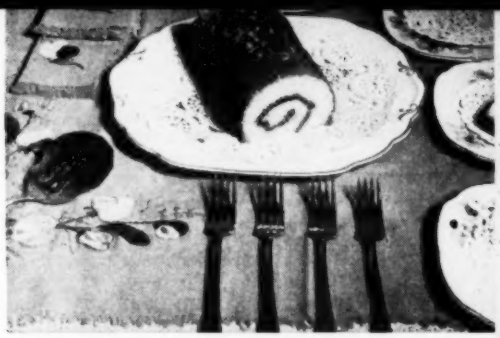
Some years ago a New York beekeeper sold a few cases of buckwheat honey of fine quality to a midwestern bottler. Complaint was shortly made that the honey was inferior and bad flavored, and since the beekeeper was sure that he had sold buckwheat honey of high grade, he suggested that I arbitrate the dispute which arose. To this the bottler agreed, not to my entire satisfaction, for one does not usually care to act as referee between his personal friends in such matters. However, I consented, provided it be left to the bottler to send me a sample of the unheated honey as sold, of which some was left. A sample of the unheated honey was sent me, together with a sample of the honey after bottling. The first was excellent buckwheat honey, the second utterly ruined by overheating. Plainly the bottler was at fault, and I so declared. The bottler then made a few tests for himself, by heating the honey gently to the point of liquefying it only, and compared it with the honey after exposure to his usual heating practices in bottling. He is a good sport and admitted his error, which after all was rather excusable, since he was not familiar with the tricky nature of buckwheat honey.

Buckwheat honey producers, as has been stated, know well enough that the heating of this honey is hazardous, yet every once in a while one sees some sort of heating device installed in a honey house for the handling of buckwheat honey. It may be some scheme for hastening the settling or straining of the honey, or it may be the use of some form of capping melter. Whatever is done, the result is always the same, for much honey is ruined by any such practice. If the ruined honey is then mixed with good honey, the damage may be partially hidden, but it is a safe wager that any person familiar with the flavor of unheated buckwheat honey could detect one part of overheated buckwheat honey in ten or more parts of unheated honey. The obvious answer to this is that any scheme for heating buckwheat honey in the honey house, for any purpose whatsoever, is dangerous and is bad practice.

To state now the other side of the picture, it is a customary practice here at the College of Agriculture to put buckwheat honey through the process for preventing fermentation and to cause the formation of minute crystals, by the procedure commonly known as the Dyce process. This requires heating to some temperature which will destroy the yeasts which this and all other honeys contain. The usual practice has been to heat it to 160° F., but not more. Sometimes a slightly lower temperature is used, and after the recent work of Townsend, it will hereafter be the regular practice to use a temperature not higher than 150° F. The important distinction must be stated, however, that heating by the methods which we use seems not to injure the buckwheat honey in the slightest degree. The honey is first partially liquefied at a low temperature, placed in a glass-lined tank and heated to the requisite temperature. Immediately when the honey reaches that temperature, the heat is turned off and cold water is circulated through the surrounding water jacket and stirring coil. All the time during heating and cooling the honey is agitated by a mechanical stirring device, and it is this agitation which apparently saves the honey. If we have injured buckwheat honey by this process, we cannot detect it, but it must be recalled that any increased turbidity would be obscured by the crystallization. The flavor is unchanged.

One side of the picture is presented to show the damage which heating buckwheat honey does, and then for the sake of the whole truth, it is stated that we heat buckwheat honey without harm. The reports of both procedures in fact tell the same story, namely that heating of buckwheat honey is hazardous. It is entirely clear that heating of this honey in the honey house, without all the special equipment which is used in processing cannot be done without damage. The heating of buckwheat honey is not a procedure to be recommended.

Ithaca, New York.



Honey jelly will add a new flavor treat to your favorite jelly roll.

Tricks with Jelly

Mrs. Benj. Nielsen

Honey Jelly is Used as an Ingredient in Producing Food with an Appetite Appeal

Did you make lots of honey jelly? I do hope so; and that you became adventurous and tried a number of other kinds, too, on your own. It's going to be rather hard on that jelly cupboard; there are so many ways jelly may be used to add that deluxe touch to common-place meals. Remember it isn't necessarily the use of intricate, difficult recipes that win culinary reputations for us. The laurel wreath goes to the gal who can take an ordinary every-day recipe, give it a quick, ingenious touch, and turn out the kind of dish that makes folks pass their plates for second helpings.

Flavor, texture, and color determine the success or failure of a dish. Honey jelly, skillfully used, gives a lift to all three points. You will be so delighted with the delicate pastel frostings; the trick of turning a weepy, tough meringue into a tender lovely morsel; and so proud of the texture of your grape sherbet, that you will want to make experiments of your own.

For tasty and attractive sandwiches slice honey bread, cut in desired shapes, making a hole in each top slice. Spread slices with pimento cheese and fill the holes with firm honey plum jelly. This sandwich filling, which will please children and grown-ups alike, may be made ahead of time: 1 cup of peanut butter, creamed with 1 cup of butter. Add 2 cups of honey jelly, whip 2 minutes and pack in jars.

Another filling you will enjoy having on hand is made by creaming together 1 cup of confectioner's sugar and ½ cup each of butter and honey jelly. This is good on brown breads, honey graham crackers, and between pairs of honey cookies. Used on fresh honey gingerbreads and honey date-nut bread, it is sure to result in demands for second helpings.

Unless the recipe specifies, jelly should not be melted, for combination with other ingredients. Avoid mashing, which has a tendency to push liquid out rather than making into good consistency. Good consistency is obtained by pressing the jelly through a potato ricer or tea strainer.

For a salad dressing you will be proud to serve with your finest fruit salads: place 3 unbeaten egg whites in the upper part of a double-boiler, add ¼ cup of honey and ½ cup of plum, raspberry or strawberry jelly. Cook over rapidly boiling water, beating constantly with a rotary beater until mixture will hold its shape. Add 1 tablespoon of lemon juice and ½ teaspoon of salt. Beat 1 minute, then beat over cold water until firm. Fold in 1 cup of whipped cream. This dressing has good body and may be used in a decorative tube for attractive salad garnishes.

Speaking of garnishes, next time you are preparing honey baked apples for the family, top each apple with honey-sweetened whipped cream and a cube of sparkling jelly. When baking sweet potatoes in a casserole, dot generously with butter, top with a layer of marshmallows and slip into the oven. Using a low temperature, allow the marshmallows to melt slightly but do not brown. Then place a bit of plain or minted apple jelly on each softened marshmallow.

Next time you are making your favorite jelly roll if you would have a firmer filling, which slices better and is not incined to run, place the freshly baked sponge cake on a damp towel, trim edges and roll up quickly and let stand in the towel until cold. Unroll carefully and spread with

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Honey jelly marguerites may be prepared in jiffy when unexpected guests drop in.

honey jelly, roll up again and dust with powdered sugar.

Here's a grand filling for a jelly roll and it's marvelous as a topping on sponge cake. Whip 1 cup of cream and into it fold ½ cup of honey jelly, which has been pressed through a potato ricer or tea strainer. Peach, strawberry, and orange jelly step into the limelight here.

Give your pies a flavor lift by substituting jelly for all or a part of the sugar. A tart jelly may be substituted measure for measure—jelly made from Damson plums is particularly suited to this use. A word of advice; a lower temperature in baking your jelly pies makes for nicer consistency.

Honey Grape Sherbet

Melt a glass of honey grape jelly in a bowl placed over boiling water. Add ⅓ cup of unsweetened pineapple juice and the juice of one orange and juice of one lemon. Soften 1 tablespoon of Knox's Gelatine in ¼ cup of cold water; dissolve in ½ cup of boiling water. Add to the jelly

Honey grape fluff makes a perfect ending for a hearty meal.

mixture, mixing well. Pour in refrigerator tray and freeze until firm. Place frozen mixture in a cold bowl and beat with a chilled rotary beater until mixture is smooth. Fold in 2 stiffly beaten egg whites. Complete freezing. We call it Honey Grape Fluff when it isn't frozen. Just let the mixture thicken slightly, beat until light and fluffy, then fold in the stiffly beaten egg whites. Pour into sherbet glasses or individual molds and chill until set. Serve with thin or slightly sweetened whipped cream. Honey sweetened, of course.

Honey Bread Pudding

Soak 2 cups of stale honey bread crumbs in 1 quart of scalded milk. Let stand until the bread is softened. Add ½ cup honey and the beaten yolks of 3 eggs. Mix well. Pour into a baking dish and set in a pan of water. Bake in a slow oven, 300 degrees F. until the custard is set, about 1 hour. Let cool, spread with a generous layer of honey jelly, top with honey jelly meringue and return to the oven to brown. A deluxe version of the humble bread pudding.

Pastel Jelly Frosting

In a bowl set over boiling water place 1 unbeaten egg white and ½ cup of any tart honey jelly and a few grains of salt. Beat with a rotary beater until the jelly is free from lumps. Remove from boiling water and beat until the mixture is stiff enough to stand in peaks. Spread on cake and dot with slivers of clear jelly. Serve at once.

In making meringues for your pies it is wise to choose light or reddish colored jellies. Dark jellies such as grape and blackberry make a dark, unattractive meringue. Apple, cherry, currant, orange and plum impart a tart, twangy flavor and a soft, pink color. Beat the whites of 2 eggs until they stand in peaks, add 3 level tablespoons of honey jelly and keep on beating until the jelly is thoroughly blended. Heap on your pie and place in a slow oven, 275 degrees F. for about 15 minutes.

Honey Jelly Marguerites

Into the top of a double-boiler place 2 unbeaten egg whites, 1 cup of sugar, and 1 cup of tart honey plum jelly. Cook over rapidly boiling water, beating constantly with a rotary beater until sufficiently thick to spread. Remove from heat and beat until cool. Pile on honey cookies, honey graham crackers or salted crackers, sprinkle with chopped nutmeats and brown slightly in a moderately slow oven, 325 degrees F.

Glazed Roast Chicken

Dress and stuff a 5-pound chicken with bread stuffing. Truss, tie and rub the outside with salt. Sear in a

(Continued on page 657)

Electrified Fence

G. H. Dacy

It Controls Honey-stealing Bears

How a California mountain beeyard looks after a bear raid. Electric fences now used effectively in preventing such despoilage.

Harkening back to World War days when electrified fences were used successfully in the restraint of prisoners, Messrs. T. I. Storer, a zoologist, and B. D. Moses, an agricultural engineer, of the University of California, and G. H. Vansell, an apiculturist of the U. S. Department of Agriculture, have copied the same idea in fortifying commercial colonies of bees in stockades where they are safe from marauding, honey-robbing bears. Their experiments have proved that a few generous jolts of "canned lightning" or high-line juice are extraordinarily effective in routing the roaming roving bruins. And once routed by an electric fence the wise black bear hence-forward leaves that new-fangled contraption strictly alone. Even trails and lures of brown sugar which lead him to one of the wired fences will not induce him again to touch one of the "hot" wires. One experience with the powerful "kick" of electricity is sufficient for "Blackie", his kith and kin.

An industry threatened by a pestiferous epidemic—that was the official introduction of the efficient electrified fence to new and decidedly amazing service. The electrical engineer who originally contrived the charged wire fence as a deterrent to American live stock which had a flair for entering "no trespass" areas and violating the official metes and bounds prescribed for them by their owners, probably never expected that his idea would be mobilized to make big bears turn flip-flops and back handsprings.

The keeping of honeybees is big business in the great central Sacramento-San Joaquin Valley of California. Bustling colonies of bees convert the nectar of fruit blossoms and other vegetation into the most healthful sweet known to man; these industrious insects by spreading pollen effectuate the pollination of billionaire fruit crops. Bees are indispensable to orchardists and grovemen; honey, one of the most nearly perfect foods famed in prose and poetry because of its purity, is an essential; 178,000,000 pounds of honey were produced and marketed by American beemen last year.

Unfortunately for Golden Gate State apiarists there are three vital flies in the otherwise ideal ointment for beekeeping in the Sacramento-San Joaquin Valley. Bee pasturage in that area is incredibly and discouragingly short during the summer; untold millions and even billions of honeybees are killed by arsenicals used in spraying fruits and vegetables against plant pests; the blossoms of California buckeye in bloom during the summer contain a poison which paralyzes and deforms hive bees. Because of this trio of handicaps which annually exact heavy tribute from beemen the commercial apiarists have formed the habit of moving their colonies from the valley to the mountains rich in bee pasturage during the summer. Some 200 beekeepers, including several who each maintain 3500 or more colonies in Tulare County, follow this practice; at least 100 beekeepers in Oregon and Washington practice a similar system of seasonal migration. Thus by following the "bloom" season these apiarists have available two seasons of "spring flora" for their bees; this apparent contradiction is true because spring in the mountains is a month or so later than in the lowlands.

The chief drawback to this campaign which seeks more and better blossoms as pollen and nectar sources for California bees was b'rar; the middle altitudes of the Sierra

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Nevadas which provided excellent bee forage are the home of the abundant native black bear. The craving of these bears for honey is too well known to rate more than passing mention. The bears as four-legged Captain Kidds ravaged and wrecked the migrant colonies of bees in their isolated highland locations. That expedient of encircling the colonies with bear-proof stockades was too costly for economic practice; it was also impractical to elevate the colonies on wooden platforms out of the reach of the piratical bears. It looked as though the bees would have to give up their vacations in the mountains in the bear country. Then the state and government experts suggested that research be conducted with electric fences to see how the pilfering bruins would react to such "warfare".

There was an outstanding handicap to the employment of electrified fences in the mountains; no high lines as sources of power were accessible in the regions where the migratory bee colonies were located. That necessitated the use of weatherproof units containing four 1.5-volt dry cells (telephone type) which may be used continuously for three months under field conditions; a set of these dry cells costs about $2. An automobile storage battery with a rating of 90 ampere hours or higher will operate a fence unit for 90 days under proper care without recharging. Storage batteries of course are more expensive, heavier to transport in the mountains, require recharging regularly, and necessitate the replenishment of battery water as frequently as essential. In addition to the battery or dry cells the bear fence necessarily includes an interrupter and coil for producing intermittent shock, a current limiting device, fence posts or trees, fence wire on insulators fastened to the posts and linked to one side of the controller output, and a chicken wire "threshold" around the outside of the fence connected properly to the other grounded terminal.

The controller according to the California experimenters contains an interrupter which serves to break the direct current from the battery, causing a change in the voltage and current relations in the primary windings of the coil and inducing a transient voltage in the secondary; this higher voltage is used to charge the fence wires. The interrupter also performs two additional services; it permits a person or animal that has contacted the fence to break away between shocks and by intermittent use it conserves the battery energy. The test installations have involved use of shock intervals of from 73 to 12 impulses per minute, but the latter is too slow; 30 to 50 impulses per minute have proved adequate.

The coil serves to "step-up" the 6 volts of the primary (battery) source for application to the fence. Since the current and consequently the hazard to human beings increases as the voltage is raised, means must be used for keeping the output within safe limits, certainly in respect to the current and possibly also as to the voltage. Human deaths have occurred with shocks of as low as 50

The bear fence of 4 strands of barbed wire insulated from posts. A wire netting ground wire outside one foot from posts, serves as a "threshold", and completes the circuit when the bears stand on that wire.

volts but general experience suggests that somewhat higher voltage may be used if the current is held to not over 15/1000 of an ampere (15 milliamperes). The exact limits for safe use are unknown. Because of this danger the assembly of equipment for electric fence operations by amateurs should be emphatically discouraged.

The experiments with the electrified fence were conducted in the Yosemite National Park where black bears are unusually abundant. Two test fences, each encircling an experimental bee yard 24 feet square, were built; one was a 5-strand fence of barbed wire, the top, bottom, and middle strands were mounted on solid porcelain insulators and con-

"Ever ready" fence unit with 6-volt "hot-shot" battery. One wire to fence, one wire to iron post driven into ground which is also connected with the wire netting "threshold". Unit interrupts circuit 70 times a minute.

nected in parallel to one output terminal of the fence controller. The other two strands were stapled to the fence posts and grounded to a 10-inch rod buried in the wet soil. The five strands were spaced 6, 14, 24, 35, and 48 inches respectively above the ground. Fence number two was made of smooth wire of similar spacing except that a sixth strand 54 inches above the ground was added and mounted on insulators. Both of these fences were adequately high for repelling bears as none of the wild animals subsequently watched by hidden observers attempted either to jump or climb over the obstructions. The lures placed inside the fenced areas included cured ham, bacon, fish, honey, and brown sugar; the "hot" wires of each fence were coated with bacon rind. No juice ran through the fences the first night, the bears being allowed to gorge themselves with the choice tidbits which they relished greatly.

The second night when the bears returned for another feast the fence was fully connected and electrified; during the next 6 days 15 bears were watched as they contacted the "live" wires and were shocked. The experimenters report that the response of the bears to the electricity was similar in all cases; bruin made a backward jump, executed a quick right-about-face, and fled; these bears touched the "hot" wires with either their noses or lips. One bear reared up on his hind legs and placed his front paws on the "hot" upper strand; after the jolting shock, he ran away some distance, and then climbed a tree where he remained about an hour before descending and seeking his den.

One experience with the "juice" was enough for these bears; some of them subsequently returned to the enclosures, sniffed audibly, looked at the bait attentively but came no closer than about 7 feet of the wire fence. Brown sugar trails were later used to attract the fence-shy bears; they pursued the sugar feast to the fence line, dug into the ground 3 or 4 inches under the fence in order to paw more of the sweet from the inside to the outside of the enclosure and then departed.

There are many cases on record of bears fleeing from "honey trees" pursued by buzzing stinging bees but the lure of the honey treasure was always sufficient in time to urge the animal thieves to return after more honey. The sting of electricity apparently carries power and persuasion which the stinging bee lacks; that's why California apiarists are now fortifying their mountain bee yards with "live wire" fences, the best deterrent to bear raids which apicultural science has been able to uncover.

Miami, Fla.

W. H. Gardner, 1232 W. 21st Street, Indianapolis, Indiana, is an enthusiastic back-lot beekeeper.

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From the Field of Experience

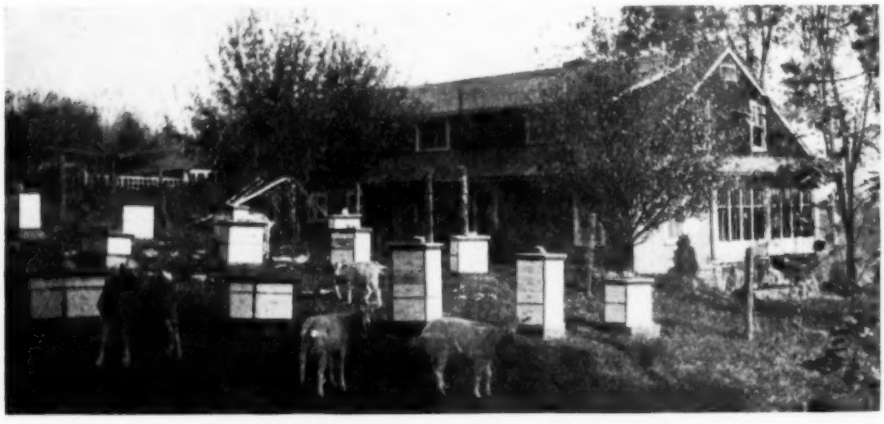
DO YOU? I DON'T

C. H. Pease

Do you think that a whole lot of heat gets through the side of a spotless white painted hive? I don't. Mr. Isaacson evidently thinks it does (page 493, August Gleanings). His test is: "Place your hand on the sunny side of an openly situated hive on a hot day." Fortunately the bees do not have to "place their hands on" nor have anything to do with the **outside** of the hive in the hot sun; they are **inside,** shaded from the sun, and the white paint repels the heat. When making tests in cases like this I believe as Dr. Miller said, "take it to the bees." And here is what my bees told me the last three days (July 23, 24, 25): My hives are in full sunshine all day, and on these three days the temperatures, by a tested thermometer in the shade, were 90, 90 and 94. Not one colony in the yard showed any indication of being uncomfortable except one of the most populous that was crowded and running for comb honey. On that third day, when the mercury pointed to 94 in the shade and no breeze, about a handful of bees were clustered outside at the entrance. Could anyone tell me any plainer than the bees did that insulated covers, big open entrances and white paint does the trick?

Do you let grass and weeds choke the entrances to your hives? I don't. I use both mechanical and animated lawn mowers. The "chin-whiskered" mowers, illustrated here, do a pretty good job and the machine and clippers put on the finishing touches. By this means we make the bee yard yield two crops—honey and the best milk in the world. I am fully aware that many will "stick up their noses" at the last five words of this statement, but, considering that in all probability those who ridicule it have never used good clean goat milk from the modern "toy cow" and, as we are in our 22nd year of experience with it, who should be best qualified to judge it? After an exceptionally hot session in the bee yard and Old Sol has cooked the pep all out of you, don't "let up and light up a cigarette" but sit down "in the shade of the old apple tree," take a glass of good cool goat milk with a teaspoonful of honey in it and in fifteen minutes you'll find yourself skipping around like the lambs of Wall Street.

Do you drive your bees out of the supers with carbolic acid? I don't; the good little bee-escape is good enough for me. As I have never used carbolic acid I suppose I am not qualified to pass judgment on it, except as I form an opinion, as I am now doing, from the experience of those who have used it. I recently read in a bee journal that "several carloads of honey in the United States have been condemned, also



Mr. Pease's animated chin-whiskered lawn mowers.

some in Canada, for being tainted with carbolic acid; the Pure Food authorities condemned them as unfit for human consumption." Also the experience of Alfred P. Johnson, Rankin, Ill., was related in Gleanings, November, 1936, page 665: "I have no use for carbolic acid in removing honey that goes to market. Honey removed with it and stored criss-cross in honey house still had taste and taint after four days. It injures the bees if one is not positively careful. There is also danger of severe burns. It does not prevent robbing when removing honey. I use bee escapes and intend to continue using them." Testimony like this from people who have used carbolic acid tells me that this is a good chance to profit from the experience of others and leave the stuff alone.

Do you consider that a queen is a queen before she has been mated? I don't. She starts from a worker egg and is a worker larva until, perhaps, three or four days later, when, by the change of diet and treatment, this worker larva begins the transformation into a queen larva, and finally develops into a virgin. After mating, and not until then, I believe, she should be "crowned" queen. To prove that a virgin and a queen are different, listen to this:

Do you think mated queens ever sting a person? I don't, if Allen Latham's experience is any criterion. In November, 1933, Gleanings, page 657, Mr. Latham refutes the commonly published statement that "queen bees never sting other than their own kind", by claiming that he had "been stung by a queen on more than one occasion" (I think he should have said "virgin" because he winds up his argument by saying that "all stings I ever received from queen bees were from virgins"), and he personally told me that he had never been stung by a mated queen. According to Mr. Latham's experience of more than fifty years handling bees and rearing thousands of queens, barehanded, would it not seem that if a mated queen ever stung anyone, at least one would have "penetrated" him at some time during all those years and the endless amount of queen handling he has done? Therefore, is it not correct to say that the product of a queen cell is a **virgin** and the product of the mating is a **queen?** Also, that virgins do occasionally sting folks, but has anyone been stung by a mated queen? I confess I don't know because I have never been stung by either.

Canaan, Conn.

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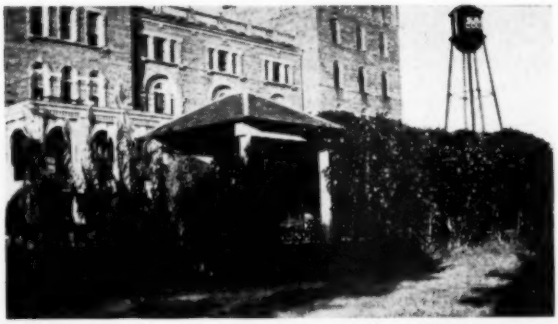
AN IDEAL BEE SHADE

Bro. Stephen Babek

In the article "My First Year in Beekeeping" carried in the April issue, 1935, page 207 of the Gleanings, a mention was made of a vine covering a steel trellis, but there was no description of it. This is the kudzu vine *(Puerania Thumbergiana)*. I fear that it is not well enough known for its shading value. There are not many plants of this kind in our own neighborhood, and visitors from out of the state often ask about this vine and want to know its name.

Fig. 1.—Not a huge locomotive cab, but a real bee shade. I got the idea from some bee book. I think it was an old edition of A B C and X Y Z in Bee Culture suggesting a shade running north and south so as to allow the East row of hives to have the morning sun, and the row facing west, the afternoon sun. All except four of the 32 colonies were ten miles away on better pasture (fig. 5) when the picture was taken.

Fig. 2.—A side view of the bee shade showing the dense growth of leaves.



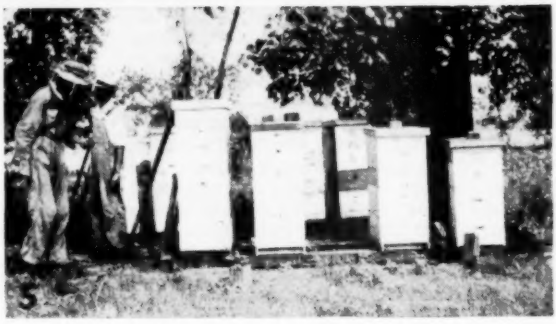


Fig. 3.—This vine covers a high fence and serves as a windbreak to a row of chicken houses on the right. (Note that the leaves are eaten away at the bottom within the jumping reach of the chickens.) This is a natural growth for it received no other care than that of planting.

Fig. 4.—The four stocks that cover this arbor are 20 years old, and during the last 10 years received no artificial watering in spite of the dry summers we had.

Fig. 5.—Out in the "happy hunting grounds" where hundreds of acres of cotton and alfalfa are blooming. The writer was not aware of being caught in the picture. The innocent by-stander is Mr. Victor Lee of Paris, Arkansas.

The kudzu vine is easy to grow; the vines root readily wherever they touch the ground. The best way I know of growing this plant is to keep the young vine cut short like a bush-bean stock for about two months, or until it is well rooted and sends out a strong young shoot.

When the young vine begins to climb the trellis, it is important that it be left slack for about 18 inches. This is necessary because it contracts as it gets thicker and will bend or break the trellis if not released. The vines grow rapidly in favorable weather; one may grow 8 or 10 inches in 12 hours. As the vines spread, some ends will drop through the vine netting on the trellis. These ends must be pushed up with a forked stick once a week. In this manner any desired shape of shade may be produced.

I have known the kudzu vine for twenty-three years and never saw a plant of it die yet. However, the trunks will crack and rot after they are about five years old, but young shoots can be trained in advance before the old ones die. Stock and chickens must be kept away from the young vine until it gets well out of their reach. It is said to be very good pasture for stock, but I have never tried it. The only way I think it could be used for that purpose would be to have the pasture divided into two parts and keep the stock on one part to allow the other to grow. Just how far North this plant will grow, or how much breeze it will stand I do not know. But it has stood the freeze here to 11 and even to 14 below zero without even killing the smaller vines.

This vine blooms from about the 15th of August till about the 10th of October in this latitude. The clusters of flowers resemble the Chinese wisteria, but darker in color. It is more blue and has a strong fragrant odor of grape juice. Bees work the blossoms at times, but as well as I can observe, the kudzu vine is not much of a honey-plant.

The kudzu vine may be planted from the beginning of winter to late spring. But winter is the best time to make the trellis for it, as the bees are less active and the beekeeper has more time during this season.

Subiaco, Ark.

SECOND GLANCES

C. M. Isaacson

Would-be young beekeepers in Pennsylvania surely have an opportunity too good to be missed in the 4H Club work as told about by Edwin J. Anderson (pages 441-444, September, 1939, Gleanings). Beekeeping is one of the most intensely interesting of pursuits when one is started right, and Mr. Anderson is helping them to do just that. His suggestion for an exact apiary record is one profitable for many besides beginners.

We all need a good laugh—and I surely received it when I read J. F. Norgren's article on clarifying honey (pages 545-546). His humorous wording gives a really worthwhile suggestion. His "natural method" of clarifying honey is the same principle on a smaller scale that Mr. Gardner gave for larger beekeepers in his June article in Gleanings (pages 418-419).

I am not so far removed from school lunch days that I cannot remember the pleasure given by an array of good sandwiches and cookies packed for me. Mrs. Nielson's recipes (pages 547-549) will make many a lunch a "blue ribbon" one. And think of their health-giving qualities when they all contain honey!

The "winter and summer" principles of the top entrance are clearly shown on pages 550-552. It is an important point to note when experimenting with this entrance, that it must be different for different seasons. This may help to prevent many a failure and disappointment in their use.

Mr. Killion's comb honey article (page 552) gives the essentials for **all** beekeeping in concise form. That good drainage of air is so important in wintering is a point probably not recognized by many beekeepers. I like his admonition to let the bees decide—not decide for them.

I naturally was interested in Mr. Pease's article (pages 555-556). Remember, Mr. Pease, I said clipped queens **and** the Demaree method. I rarely **have** a swarm—much less lose one. I believe you are right about too much shade making bees cross. Partial shade, as I said before, I consider best. You have higher yielding colonies in the sun; I have mine in the shade; which only goes to show that we can never afford to be too positive about a **general** statement. But I will say no more here as I don't believe the Editor would be interested in our starting a "feud" in the columns of Gleanings. (You probably will soon hear from me by letter.)

Mr. Sturdevant (page 556) presents some facts that should be given considerable thought. I think he is correct in his contention that midwinter brood rearing is bad when there is no opportunity for flight.

Some of the instinctive characteristics of honeybees are aptly illustrated by Henri Meijer in his article (page 559). When making use of these principles we can remember also, that they are not absolute, but merely the general rule. Exceptions do occur. As the article says, we all make blunders and even the bees are not immune.

"Get the honey habit" (page 566). The shortness of this editorial belies its value. It is worth studying carefully. We need to "talk up" the good qualities of honey and to use more ourselves.

Mr. Hull's item on page 560 serves to prove further the need for "dissemination of authentic information on honey" as the editor puts it. When we read of the S. P. C. A. lady's wrath, we can only stand silent—"words fail us."

Read Spinster Jane's summary of some of the uses of honey and bees, page 579. In a short space she gives enough material to talk about for days. Spread the word around—produce honey, use honey, boost bees and honey.

Talks to Beginners could as properly be called Talks to Beekeepers. While Mr. Deyell's phraseology is simple enough for all to understand, he is constantly giving the needed essentials for all beekeepers, large and small. His summary of the nectar secretion articles is especially interesting and valuable. It should be read by everybody.

With all the material for boosting honey in the September Gleanings, it is important to note that the one concern which will **do it for us**, still has some of those 10,000 positions open. I refer, of course, to the American Honey Institute (page 592). Why not apply? If you cannot send as much as you would like to at present, send a little now, and more later when you are able. It will be put to very good use, and we will all benefit.

Middle River, Minn.

XUM

SURVEY ON WINTER LOSSES 1937-'38 IN OHIO

Prof. W. E. Dunham
Extension Specialist for Ohio

This is the fourth consecutive year that a survey on the winter losses of bees in Ohio has been conducted. Information gained through these surveys during the last three years has given some valuable data on winter losses occurring among colonies housed under varying conditions. The data gathered on winter losses for the year 1937-'38 have been assembled and the results summarized in the following table:

Unpacked Colonies

2 stories		1½ stories		1 story	
Total no. colonies	Av. % loss	Total no. colonies	Av. % loss	Total no. colonies	Av. % loss
1726	8.7	805	12.7	1556	12.7

Packed Colonies

2 stories		1½ stories		1 story	
Total no. colonies	Av. % loss	Total no. colonies	Av. % loss	Total no. colonies	Av. % loss
3127	4.0	1713	5.9	3543	8.7

Columbus, Ohio.

[The above emphasizes the value of winter packing.—Editor.]

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A LETTER TO THE PRODUCERS OF PACKAGE BEES AND QUEENS

J. E. Eckert

I have just returned from a trip to Alberta where I had the pleasure of discussing the supersedure problem with several of the Dominion and Provincial beekeeping officials and with some of the larger commercial beekeepers. The trip also gave me an opportunity to become acquainted with many of their honey production and marketing problems. At various times during my visit I thought of the great good that could be accomplished if the producers of package bees and queens could get together with their customers in a general discussion of their mutual problems.

For instance, the belief is quite prevalent among many of our Canadian friends that the supersedure of queens is generally due to one or more of the following causes: 1. Inferior strains of bees. 2. Poor technic in the rearing of the queens. 3. Improper culling of queen cells and of queens. 4. The shipment of virgin queens instead of laying queens. 5. Improper methods of caging queens. 6. The holding of queens in small cages too long before shipment. In other words, many feel that the fault of supersedure lies with the queen breeder and with the stock he maintains. Have you something to offer in the form of a rebuttal?

It will be impossible to arrange for a meeting of the producers and buyers of package bees, regardless of how desirable such a meeting would be, but we are attempting to arrange for a general discussion of package bee and queen producing problems at the coming National Beekeeping Conferences in Sacramento. We are attempting to get Mr. Gooderham, the Dominion Apiarist of Canada, and as many of the provincial apiarists and Canadian beekeepers as possible to come to Sacramento, November 7 to 10, to discuss their problems with those producers of package bees and queens who will take advantage of the opportunity of being present.

We expect a one hundred per cent turnout of the package bee and queen producers of California and know that many are coming from the southern states, too. We are writing this letter to you in the hope that you will let us know you are making arrangements to be present and that you will send us in advance concrete suggestions for this part of **your** program. We will assist you in solving your problems, regarding which we urge you to write us.

Davis, California.

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MORE ABOUT METHYL BROMIDE FOR DESTROYING MOTHS

The following letter, dated Aug. 23, 1939, from The Dow Chemical Co., Midland, Mich., manufacturers of Methyl Bromide, in reply to a letter from us, mentioned by H. M. Krebs, page 432, July, 1939, Gleanings, is of interest to beekeepers:

"Methyl Bromide is packed here in our plant in 150, 50 and 10 lb. cylinders and in 1-lb. and ½-lb. cans. Air pressure is applied to the cylinders when they are filled and by using specal applicators the Methyl Bromide can be measured out in definite quantities directly into the fumigating room or vault. This is a simple and efficient method of application for users of cylinder quantities. The 1-lb. and ½-lb. cans are supplied with special openers of the beer-can type. Thus no accessory equipment is necessary where small scale fumigation is to be done as is the case with the beekeeper.

"Methyl Bromide certainly appears to be the long sought-for specific against the wax moth and its various stages including the eggs, and can be further used in the eradication of diseased colonies.

"Methyl Bromide may be obtained from many dealers who regularly stock bee supplies. Should anyone have difficulty in obtaining Methyl Bromide we would appreciate having them write direct to The Dow Chemical Co., Midland, Mich."

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OFFICE OF THE MANAGING DIRECTOR OF

Marketing Agreement and Order For Handlers of Package Honey Bees and Queen Bees

Auburn, Alabama
September 5, 1939

To All Handlers of Package Honey Bees and Queen Bees:

This will advise you that the Bee Marketing Agreement and Order has been terminated as of August 29, 1939, by order of the Secretary of Agriculture at Washington. The authority for such action came from the package bee and queen shippers in the recent ballot on whether or not you desired to terminate or continue the Bee Marketing Agreement and Order.

The problem of closing the office of the Managing Director will be supervised by the Trustees. They are the same as the Control Committee members of the Marketing Agreement and Order.

Since you have decided to terminate your Bee Marketing Agreement, it gives me an opportunity to express to each of you greetings and continued good business in your chosen industry. It has been a fine education to me to have worked with you in this attempt to help stabilize the Bee industry. Whether you were for cooperative marketing or not, it has been interesting to work with you. At all times I have endeavored to see your peculiar slant toward the industry and toward the other shipper.

As the curtain goes down on the Bee Marketing Agreement and Order my good wishes go out to each of you. It has been a strenuous effort to help serve some 295 shippers scattered in 26 states. The fact that many of you did cooperate in a fine way indicates that you did feel the need of cooperation. You were seeking some way in which to help the industry.

I shall continue my interest in the problems of the Beekeeping industry. The Control Committee has been of great assistance with the problems facing this office. I shall cherish the memories of their sacrifical services to the industry. I know that they made personal sacrifices which may never be known or appreciated by the shippers they represented.

With malice toward none and best wishes to all, I am,

Very truly yours,
J. M. Robinson
Managing Director

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HONEY WORKS WELL FOR USE IN BAKING

Many bakery concerns make much of the fact that they use honey in baking. They do this to keep their products from drying out too rapidly. The same principle works equally well in cakes and other products baked at home, says Ruth M. Dawson, nutritionist of the NDAC extension service.

"Honey takes up moisture rapidly and holds it, so fruit cakes, steamed puddings, and cookies made with it stay moist a long time. But confections and frosting made with honey will remain undesirably soft and sticky and take up more moisture if the air is humid.

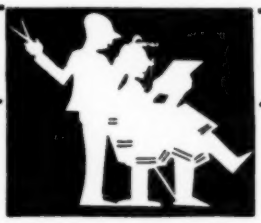
"You can substitute honey for sugar in a cake recipe but because of the moisture in the honey, less liquid is needed. The amount that the liquid must be reduced depends on the kind of honey—medium, thick or thin, and on the proportion of honey substituted for sugar."

When medium-thick honey is substituted for half the sugar in a cake recipe, reduce the liquid one-fourth, says Miss Dawson. If honey is substituted for all the sugar, reduce the liquid one-half.

Honey may be used in gingerbread, brown breads, and steamed puddings. It has much the same consistency as molasses and may be used in place of it, measure for measure. But honey contains less acid than molasses; so leave out the soda if it is called for and increase the quantity of baking powder. For each quarter teaspoon of soda omitted, add 1 teaspoon of baking powder. Otherwise follow the usual method in the recipe you are accustomed to, including time and temperature of baking.—North Dakota Agricultural College News Service.

XUM

Just News



The Nineteenth Annual Convention of the Florida State Beekeepers' Association will convene in Gainesville, Florida, on Monday and Tuesday, October 16 and 17. Speakers on the program will include Dr. Wilmon Newell, State Plant Board Commissioner; R. E. Foster, State Apiary Inspector; J. D. Haynie, Asst. Apiary Inspector; Hon. Nathan Mayo, Commissioner of Agriculture; Dr. L. M. [illegible]des, State Marketing Bureau; Sen. [illegible]. J. Parrish, Titusville, Fla.; H. S. Foster, Gainesville, Fla.; R. C. Allen, Auburndale, Fla., and several other prominent beekeepers located in Florida. Out-of-state speakers will include A. V. Dowing, State Apiary Inspector of Georgia; J. J. Wilder, Waycross, Ga.; R. W. Sterrett of Owens-Illinois Glass Co., Atlanta, Ga.; Guy LeStourgeon, of The Beekeepers' Item, San Antonio, Texas; Ned Prevost, Clemson College, S. C.; Fred W. Muth, Cincinnati, Ohio. We are also expecting to have several other beekeepers from out of the State including a representative from the American Honey Institute. The program committee is working hard to make this an outstanding meeting and is looking forward to having the largest attendance on record of the Association. The officers of the Association are L. M. Dewey, Merritt Island, President; Leslie M. Lewis, Havana, Fla., Vice President, and W. H. Williamson, Auburndale, Fla., Sec'y.-Treas. The Board of Managers include the officers named and R. C. Allen, Auburndale, and P. D. Shuping, Sharpes, Fla.—W. H. Williamson, Sec'y.

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The Licking County beekeepers held their annual picnic on August 24, at Moundbuilders State Park, Newark, Ohio. A basket dinner was served at noon to about 234 persons. Licking County beekeepers have the largest membership of any county association in the state. The members range in age from 15 years to 86 years, Mr. B. M. Jones being the oldest and William Townsend the youngest. Prizes were awarded the ladies for the best cake, cookies and pie made from honey. The men were awarded prizes donated by the various bee supply companies. The following officers were elected: Mr. C. P. Ruff, Pres.; Mr. S. B. Albright, Vice-Pres.; and Mr. H. A. Bolen, Sec'y.-Treas.

Prof. J. M. Robinson has called a meeting of the Alabama Beekeepers' Association to meet in Birmingham at the Thomas Jefferson Hotel, October 4. This will be during the Alabama State Fair week which begins October 2 through 7.

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A radio program featuring the uses and characteristics of honey will be broadcast over WKAR, Michigan State College's educational station, each Saturday morning from 10:30 to 10:45 through October. The first program will be presented Oct. 7. Prof. R. H. Kelty, M.S.C. extension apiarist, will appear on each program. One timely recipe will be given each time and talks will cover "what makes honey good." Assisting in making the program interesting will be the popular Honey Harmonizers, a family band which has appeared at several Michigan bee meetings. WKAR, broadcasting at 1,000 watts can be reached throughout central Michigan by dialing 850 kilocycles.

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Winter meetings of the Middlesex County (Mass.) Beekeepers' Association will be held on the last Saturday in each month at 7 P. M. in Concord, Mass., at 19 Everett St. Suppers will be arranged and served by the Ladies' Auxiliary. At the October 28th meeting, Mr. Walter M. Copeland will demonstrate, show slides and speak on winter packing. All beekeepers are invited.—Arthur M. Southwick, Pres., 176 Waban Ave., Waban, Mass.

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Arthur Rattray, Almont, Mich., known by Michigan beekeepers as the person who purchased the "Beekeepers' Review" following Mr. Hutchinson's death, passed on July 26, at Kellogg Sanitarium, Fla.

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A letter from N. H. Turner, Devon, England, states that he is relinquishing the editorship of "Beekeeping" and expects to take up residence in British Columbia, probably on Okanagan Lake, sailing from Manchester on Sept. 8.

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The annual meeting of the Iowa Beekeepers' Association will be held at the Savery Hotel, Des Moines, on November 16 and 17. There will be out-of-state speakers available for this program who will have a definite message of national importance for us at this time.

XUM

Editorials

National Honey Week Oct. 23-30 What an opportunity "Honey Week" will be to concentrate on popularizing and selling honey. If beekeepers throughout the country become really wide awake to their opportunity the results should be far-reaching. The American Honey Institute, Madison, Wisc., is ready to cooperate with beekeepers in making this coming "Honey Week" the best ever.

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The Sacramento Meeting This is the outstanding bee meeting of the year. It represents a cross section of our industry. The sponsoring organizations, the American Honey Producers' League, American Honey Institute, Bee Inspectors of America, and last, but not least, the California Beekeepers' Association acting as host, are desirous of making this the best international meeting held thus far. Will be seeing you at Sacramento, Calif., Nov. 7-10.

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Under-consumption, Not Over-production The per capita consumption of honey in the United States can, and must be raised. No use talking about over-production, when under-consumption is so apparent. The American Honey Institute has a vast field. It operates on a ridiculously low budget. The good accomplished is all out of proportion to the expense involved. To refuse to help The American Honey Institute is like admitting that conditions can be no better. If beekeepers over the country would give the Institute $1.00 for each ton of honey produced, 1/20c a pound, the Institute budget would be increased from about $5000.00 as at present, to $85,000.00, enough to put honey on the map.

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Gas Mask for Applying Cyanogas It will be noted from J. L. Byer's report, page 639, that he uses a gas mask while treating combs in the honey house. Mr. Byer believes in playing safe, and rightly so, because Cyanogas is a powerful chemical.

Not long ago an Ohio beekeeper lost his life while applying Cyanogas and another experienced beekeeper was injured with this gas. It behooves all who use Cyanogas to read directions on the cans carefully, then follow directions.

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Forest Leaves for Winter Packing Mr. Mell Pritchard, the veteran queen breeder, says: "I find from extended observation that dry forest leaves are better than planer shavings or any other packing material because they do not absorb moisture readily and when they are damp they dry out more quickly. The tray to hold packing on double walled hives should not be filled quite full. The leaves should be loose. An opportunity for air to pass over it freely is important."

Mell is right on this and usually on any other question.

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Why Top Entrances Packing is helpful only when it is **dry.** When wet packing freezes, it does vastly more harm than good. This is the reason why single-walled hives with entrances near the top of not over one inch in size are showing up in the spring as well or better than colonies packed but with no means for the escape of moisture near the top. It is right here that a small entrance near the top allows this moisture, the deadly foe of good wintering, to escape leaving the clustering space dry.

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The Temporary Hysteria of Sugar Buying Panicky buying a few days ago on the part of the housewife boosted the price of sugar in some quarters and had that hysteria continued the price of honey would undoubtedly have gone up likewise. It has been shown that there was no shortage of sugar at any time; but when the President released a vast quantity of sugar that had been held in storage, normal prices of sugar resumed.

The result will be that honey will follow its own price levels based upon supply and demand. As has been shown in previous issues, general drouth, especially in the East, has stiffened the market on honey over last year somewhat.

XUM

After the Marketing Agreement, What? We note that one of the speakers to appear on the program at Vicksburg, Miss., Oct. 30 to 31, has selected the above as his topic, and it is timely. Now that the Marketing Agreement has been terminated, see page 627, this issue, the above question naturally arises.

Regardless of what the Marketing Agreement may or may not have accomplished for our industry it can be said that it existed primarily to stabilize bee and queen prices, a worthy purpose, in our opinion.

Obviously, producers and shippers of bees and queens, in order to remain in business, must sell at prices that leave a reasonable margin of profit. Shippers who disregard this law and sell at ruinously low prices, fail sooner or later.

The package bee and queen business is a very essential part of our industry. It is to be hoped that in the future the business may prosper and that shippers may cooperate intelligently, for their own good and the good of our industry.

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The Value of Minerals in Honey The functions of haemoglobin in the blood is thus described by Prof. H. A. Schuette, Department of Chemistry, University of Wisconsin, and likewise the referee on honey of the Official Agricultural Chemists:

> Honey is a natural, unrefined syrup from which nothing having nutritive values (I have particularly in mind its mineral matter) has been removed. Its major constituents are the sugars dextrose and levulose, both of which are directly absorbed by the blood stream without any previous tax upon the digestive system in so far as bringing about any necessary chemical changes to the end that they meet the body's requirements.
>
> Among the mineral matter will be found practically all those chemical elements which are part of the human skeleton. Future research may perhaps contradict a sweeping statement as this, yet at the present writing and speaking in the light of the current knowledge on the subject, it is probably correct. Particularly would I like to call attention to the presence of those newer essentials copper, iron and manganese, of which there seems to be a larger quantity in dark honeys than in light ones. Iron is important from a nutritional standpoint because of its relation to the coloring matter of the blood, or haemoglobin. This haemoglobin, (we build it out of our food), has a certain power of carrying that all-important oxygen to the tissues of our bodies. It it were not for its iron content, haemoglobin would not have this property of holding oxygen. Copper seems to unlock the therapeutic powers of iron in restoring the haemoglobin content of the blood of patients afflicted with anemia. In other words, copper promotes the action of iron. We do not yet fully know the advantages of including manganese in the diet, but we do now know enough about the subject to appreciate that it is a valuable adjunct to the diet. Some are of the opinion that it functions more or less interchangeably with copper, or as a supplement to it, in aiding the formation of haemoglobin in the blood. On the other hand, others hold that copper alone helps iron in this business of building haemoglobin, yet they find evidence in other connections to support their opinions that manganese has a very specific function of its own in human nutrition.

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Excessive Winter Packing Rapidly Becoming Obsolete After a tour of several states, by our editorial staff, attending summer meetings, it is apparent that beekeepers in the North are abandoning excessive packing, especially the quadruple winter case, where four colonies are packed in a large case, with six inches of packing on the sides, ten inches on top, and four inches on the bottom. This four-hive case is practically obsolete. It is too much of an ice house. The cluster does not expand on to fresh stores on sunny days.

Beekeepers are likewise finding, according to the testimony received, that very moderate packing in slater's felt is now the rule in colder climates, but all agree that **the packing must be kept dry.** Covers should be sealed down early in the fall, and all connections between the supers should be tight, so that the warm, moist air from the cluster does not escape into the packing, but out through the top entrance. When the packing becomes wet and freezes, it is worse than no packing at all.

It is quite remarkable how the top entrance, halfway up on the food chamber, has gained in popularity. A ⅝" or 1" hole in the hand hole of the upper brood chamber allows the excess moisture to escape and at the same time prevents loss of bees through clogging of the lower entrance with dead bees.

It is unnecessary to have a tube passing through the packing. Slater's felt is tacked down to the wood around the hole in the top super. To winter well there should be a young queen, plenty of pollen and honey in a double-brood chamber.

"The entrance at the bottom is important", says Dr. Farrar, of the Bee Cultural Laboratory at Madison, Wisconsin, "because on warm days the bees can carry out the dead bees, and this, in connection with an auger hole in the upper story, provides sufficient ventilation". Practically all

authorities agree that the great value of the top entrance during winter is to allow the excess moisture from the cluster to escape; otherwise, it goes into the packing and does more harm than good, especially when the moist packing is frozen.

In the recent trips through several states, we compared notes with those who are using top entrances. We are now more than ever convinced that it has come to stay, provided it is placed part way down on the front of the upper brood chamber so that there can be a stratum of warm, dry air above the cluster.

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The Sacred and the Silly

Congratulations to Printers' Ink on the sensible editorial August 25, 1939, condeming the silly custom of stunt advertising such as wrestling matches in six inches of blue-berries. That may be harmless if wrestlers can be found who are willing to wrestle under such conditions. But will the crowd generally eat more blue-berries because of such a stunt? When it comes to marrying a couple in a vat of cherry-juice, one is apt to reflect rather more about the mixture of the sublime and the ridiculous than the mixture of the cherry-juice and water. Surely there are depths of advertising depravity not yet fathomed. Printers' Ink rightly asks why not start the custom of marriages in a pool of Listerine, Odorono, or dental cream?

In like sarcastic vein we respectfully ask why not search for a young hopeful who would ask his Honey to join him in holy wedlock while standing in a tall tank of the principal product of the honeybees. Much poetry might be written about such an occasion and doubtless thousands would crowd the church or honey house, whichever were thus sanctified. Couples are being married under the surface of the sea and nearer Heaven perhaps while floating above the clouds, but what could leave a sweeter memory than a marriage in a vat of absolutely pure orange blossom honey?

Or, since more persons are baptized than married, especially when in the case of the latter sacrament two birds are killed with one stone, why not start something new and baptize infants and adults in goldenrod honey by immersion, pouring, or sprinkling? The church or the space in the park around the speakers stand should be well filled, and the morbid, noting the aroma, would doubtless rush out to buy at the nearest roadside stand.

Offensive? Certainly, but hardly more so than some of the other combinations of the sacred and the silly promoted today as advertising stunts. Verily, these things are as an ugly blot on the otherwise fairly fair page of advertising.

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Needed—More Grocers Enthusiastic About Honey

A grocer selling $600 worth of honey every month is the right kind of a grocer from a honey producer's standpoint. He is just an ordinary grocer with not an unusual volume of business, yet he sells several thousand dollars' worth of honey a year. Why is this grocer different from many others? How does he accomplish this seemingly impossible feat? What is the explanation? Simply this: the grocer is, himself, a beekeeper and operates about 30 colonies of bees. Obviously, the honey that he sells (the greater part of it, at least) is not from his own bees.

There are several conclusions to be derived from this story. First, the grocer, enthusiastic about his own bees, is a honey enthusiast. He has read all about honey and knows how healthful it is so naturally he displays honey prominently in his store; he makes an effort to sell it and is adding very materially to his volume. Doubtless he is finding that with a little help on his part, honey is easy to sell;—that his customers getting the honey habit order it regularly.

Another obvious conclusion is that with no dense population in that vicinity, the consumption of honey among the customers of this store is certainly more than one pound or two pounds per capita per year. This grocer goes right ahead in spite of what may be the national per capita consumption, and builds up a profitable addition to his business with comparatvely little effort.

What one grocer can do, thousands of grocers might do. To attempt to sell all the grocers on the idea of keeping bees would be absurd, yet, in passing, it is not out of place to observe that small beekeepers by their enthusiasm, unconsciously create a greater market for honey locally. The whole industry profits by the enthusiasm of young beekeepers.

XUM

From North, East, West and South

NORTHERN CALIFORNIA, August 31.

Mr. Cary W. Hartman, the regular contributor in this column and the inspiration of all young and old beekeepers who have met him at our conventions, at this writing lies seriously ill at his home in Oakland and I am offering the following few paragraphs as a substitute for his usual contribution:

Weather: The interior valleys of California seldom get rain during the summer months and this year is no exception. The shortage of moisture during the past winter and spring months has caused the unirrigated areas to dry up earlier than usual, resulting in the inevitable short crop or failure of honey from a majority of the different sources. The summer months have not been unusually warm, in fact during the past month we have had many very cool nights with some cloudy days that have not caused any improvement in the shortage of nectar. "Indian signs" point to an early fall.

Conditions: While we have only fragmentary reports from widely scattered areas, it is safe to say that California will produce a very short crop of honey this year. The star thistle will be less than half an average crop. Alfalfa and cotton are holding up fairly well and are reported to be of good quality. Locally, we do not expect to extract a pound of honey and reports from the northern portion of the Sacramento Valley indicate that the harvest from star thistle is very disappointing in many places. A good flow of honeydew has been reported in some of the mountain sections and the Valley Oak may still yield some honeydew for winter stores.

Market: An increase in the wholesale price of honey over the high of last year will aid some in balancing the budget of a poor year. However, we hear reports of offers being made as low as three cents still, a short-sighted proposition for all concerned as it encourages the producer to sell retail at normally wholesale prices. Local demand for honey is increasing.

Organization: Mr. Hartman was elected the secretary-treasurer of the American Honey Producers' League at the last national convention and is also serving in his usually efficient way in the same capacity for the California State Beekeepers' Association. He has devoted much time to the honey exhibit at the Golden Gate Exposition. He is a firm believer in organization among beekeepers and supports his belief unselfishly with his time and money—and there is nothing more precious in this life than **time.** We can never have enough of it.

Now let's get our heads together for a minute. No outside influence would help Mr. Hartman recuperate from his illness faster than to receive an avalanche of letters from beekeepers all over the country bearing their best wishes for his early recovery and a dollar membership dues to the American Honey Producers' League. It would make him feel that his efforts this year have not been in vain and would give him a lift out of all proportion to the effort required to send the letter. Just address it to Cary W. Hartman, 1001 Bank of America Building, Oakland, and make your check payable to the American Honey Producers' League.—J. E. Eckert, Davis, Calif.

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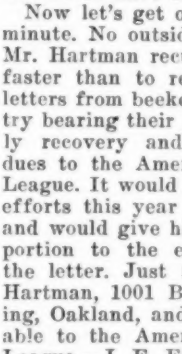
SOUTHERN CALIFORNIA, Sept. 2.



Weather: Days are getting shorter. Summer weather continued through August with a few very hot days. A little honey is still coming from blue curl, scattering patches of buckwheat that happen to be on moist ground, also from seed alfalfa and athol. Fogs which have a tendency to moderate the climate are becoming more common near the coast. Streams have reached their low for the season. With the shortening days and cooler nights these streams slowly begin to rise.

Honey Crop: We have made a trip of 100 miles to the south of us across San Diego County since our last letter. Fires have taken heavy toll in several places and to look at the dry brush-covered hills the wonder is that any of the country escaped. How the country can come back to the beautiful green of early spring is almost a miracle. Lack of moisture cut the blooming period so short this season that the averge surplus per colony is only around 20 pounds. Under favorable conditions it should be 100 pounds.

Market: A good demand for honey even if the beekeeper has none to sell is always encouraging, to say the least. Prices are around one cent per pound higher than one year ago on most grades. Very little honey is left in the hands of the producers.

Beeswax is in demand but the price remains low and unattractive. For many years we felt that wax would go to 30 cents but we have been sorely disappointed these last years. Most beekeepers feel that 17 cents is entirely too low.

Miscellaneous: Week-end trips to our mountain cabin have become almost a regular thing with us this summer. We have been placing melon rinds and seeds on a platform near the back door for the birds and squirrels and it was not until our last visit a week ago that we discovered bees sipping the juices from the watermelon rinds. We wondered if it was a swarm that had just arrived in the high altitude or a colony that had managed to survive the winter on the scanty food supply they had probably gathered. Owing to the unusually dry season up there the blossoms have been very scarce this summer. During two or three different seasons we have located bees in a big cedar tree about 100 feet from the cabin but no evidence of them could be found in the spring following. We will take some honey up there tomorrow and endeavor to locate them. More later.

On our visit to San Diego County we observed hundreds of thousands of acres much as it was 80 years ago when Harbinson took his bees there and produced the first carload of honey from California that was the wonder of the backlot beekeeper of the eastern states. While the past few years have not been at all encouraging, still we carry on and tell the beekeepers that while we have been getting small crops and a low price for our honey things will change and we are just as likely to get a big crop and a good price.

Colonies are generally in good condition with sufficient stores for an ordinary winter. Fortunately most beekeepers of today leave the colonies well supplied with stores.

Disease is well under control and there is very little complaint of the other fellow neglecting his bees.—L. L. Andrews, Corona, Calif.

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SOUTHWESTERN IDAHO, August 28.

Weather: After a very mild winter our spring weather was very backward with much cool, windy weather. After one or two warm days the weather would turn cold again making it one of the worst springs for building up colonies we have ever had. July and August have been warm and dry.

Honey Crop: Reports indicate the crop will be very spotted. Some report a good crop, and some a poor crop, but from all indications it will be somewhat better than last year with the quality much better for most sections. The flow for this locality started about July 15 and lasted about two weeks. Colonies that were in good condition stored some surplus but too many colonies were not up to par when the flow came on. Due to bad weather during June, considerable feeding was necessary to keep bees alive. Some reports from old timers say it was the poorest year they have ever experienced for building up colonies.

Honey Sales: Sales to retail stores remain about the same as a year ago, the demand about the same, and the quality considerably better. Considerable old honey has moved during the last 30 days and the demand seems to be on the up grade. The wholesale price remains about the same as a year ago. Some are holding for a better price.

Miscellaneous: At this time of the year with Fairs everywhere, we should take advantage of the opportunity to advertise honey. A small exhibit of honey and bees certainly attracts the attention of the large crowds. The effort is worth while.—A. D. Wood, Boise, Idaho.

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TEXAS, September 1.

Weather: August has been very advantageous to the honeybee and conditions now existing will allow many colonies to go through the winter in fair condition. The rains which started in July have continued through August. Light honey flows have occurred in most sections. The bees have been able to add something to the stores accumulated in early spring and are rearing a good-sized fall field force. Indications are that honey flows will still occur from broomweed, evergreen sumac, and composites. Reports from southern Texas are that the bees are accumulating light winter stores. In central Texas the bees are said to be in fair condition. In the black land cotton section no definite reports are at hand. In northeastern Texas beekeepers report that the bees not only made a good crop of honey but are in good condition for the winter.

The quick response of plants in semiarid regions to rainfall is so sudden and spectacular that many people are misled by the prospects brought on by a light rain. The rains which have fallen over most of Texas during the past month have changed an almost barren country into one clothed with green fields and flowering plants. Numbers of people are putting false hopes on these prospects.

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The accumulated deficiency of water as reported by the U. S. Weather Bureau is so great that there can be little hope for a honey flow this fall outside of a few favored localities. The building-up of bees during the winter season does not exist. Beekeepers, especially in the North and Northeast, should make no plans whatever for wintering bees in Texas if the bees must make their own living as the chance for winter honey flows is extremely small. About all that is left to the migratory beekeeper is a location which has a mild winter weather. There is no local honey on the market and few if any bees for sale.

Miscellaneous: President Howard Weaver of the Texas Beekeepers' Association has had a profitable summer in Colorado and will soon be back in Texas to help with the celebration of Texas Honey Week. I. F. Aten has moved his apiaries from the Medina country to the scene of the original Aten apiary activities and is located at Florence, Texas. W. O. Victor, Jr., writes that he is having a good time in the North and that he is strong for John Garner, his fellow townsman for the next President.—H. B. Parks, San Antonio, Texas.

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ARIZONA, August 28.

Weather: Most people, I believe, are familiar through newspaper reports of our severe drouth in this State. We have had considerable cloudy weather the past two months but rains have been very light generally. A few small areas have had good rains, however. There has been enough rain to fill many canals in the farming area and save crops from complete failure. There has not been enough summer rain, however, to insure a fall crop for bees to winter on in the desert and higher elevations. Pollen seems to be plentiful from wild flowers.

Honey Crop: The cotton honey flow throughout the Valley is on now, but I have not yet learned just how the yield is turning out. Some alfalfa locations did not yield as much as usual for there was a shortage of water and in some places it did not bloom at all due to pasturing or cutting for hay.

Even though the summer rains were light the mesquite generally has bloomed the best I have witnessed in several years. In some locations the bees gathered some honey from it for the bloom looked as good as it does in spring. Locally the bees gathered some honey from it, but not enough to be of much value. Generally, bees should go into fall and winter in good condition, for many did not extract in the spring at all, leaving all honey gathered for them to winter on. I refer to producers in the mesquite-catsclaw areas on the desert and higher elevations.

It is safe to say the yield of honey for the State as a whole will be below normal. With several Southwestern states reporting the same condition it should be no trouble for more fortunate producers of the North to dispose of this season's crop to a much better advantage. Despite the reported short yield in several Western states there has not been any advance in prices offered to the producers who were fortunate enough to get some honey this season. It makes one wonder if the law of supply and demand really governs what the producer is offered for his product.—Leslie Wedgworth, Oracle, Ariz.

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UTAH, September 2.

The Bees, the Plants, and the Weather: The early part of last winter was exceptionally warm and favorable for bee flights, which occurred almost daily. Naturally this resulted in a heavy consumption of food, and loss of old bees. In early February a sudden change took place, and for 42 days bees were confined to the cluster. In many cases this cluster was too small to reach the small amount of food still remaining in the hive. The result was one of the heaviest colony losses we have ever sustained. The small percentage of colonies that managed to survive were too weak to make a normal growth on the early spring blossoms.

Late frosts in the upper valleys destroyed the first crop of alfalfa, and a hot, dry spell immediately followed. Irrigation water was low, and there seemed to be no prospect of a crop. All over the state beekeepers were asking where they should move their bees; but the only answer to be given was: "Stay where you are. One place is as good as another".

As late as July, colonies in some parts of the state were no stronger than they should have been in April.

Unusual Conditions: In a few isolated places the drouth has had little effect and a good honey flow has been on for six weeks, but the bees have been in poor condition to handle it. This is also true to some extent in the central counties, Weber, Davis, Salt Lake, and Utah. Here colonies have been more than decimated

by other agencies than weevils, thrips, and drouth. In the territory surrounding the smelters, entire apiaries have dwindled to the vanishing point; where beet and tomato fields have been sprayed, they have likewise disappeared. It is claimed that where poison has been put out to kill mosquitoes, bees have also been destroyed; and where grasshopper bait has been scattered the result is even worse.

From these various causes, individual beekeepers claim to have suffered losses amounting to more than $20,000.00, considering the mortality of the bees and the loss of a crop. Some are melting up their combs to save them from the wax moth. One man alone has rendered 12,000 combs.

Crop Prospects: In Millard County there is probably a fair crop being taken, but in the Uintah Basin, once the greatest honey producing section of the state, many large apiaries will do little more than feed themselves for the winter.

For example, one man who last year secured 16000 cans of honey, this year will get no more than 200. Another said: "I called on the county treasurer and paid my apiary tax with the price of 10% of my crop". Here they blame the alfalfa weevil, thrips, and other insects for the destruction of the blossoms; also the drying winds and the lack of irrigation water, for failure of a nectar flow.

The east central section, Carbon and Emery Counties, always heretofore a reliable source of honey, has produced the "poorest crop in its history", according to the local inspector there.

Conditions in other parts of the state are such as to make it certain this will be the lightest crop in years.

Markets: Due to the foregoing conditions, the price of honey is looking up. It stands at a higher level than it has in recent years. There is no question that the holdover from the 1938 crop will be removed as soon as prices satisfy the holders.—W. H. Hendricks, Salt Lake City, Utah.

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NORTH DAKOTA, September 1.

Honey Crop: Beekeeping conditions are rather spotted this season. In the northeastern portion of the State where good yields are the normal rule, the amount of honey will probably be less than half that of most years. From other sections the reports indicate from fair to good yields of honey. In general, the honey is heavy-bodied and mostly white in color. Just what factor is responsible for the varying yields is not entirely clear. Lack of rainfall, accompanied by weather that was too warm for satisfactory nectar production may be the main cause inasmuch as there has not appeared to be a lack of nectar-producing bloom.

Sweet Clover: During the past few weeks the writer has covered a large portion of the State by car and has observed excellent stands of the young sweet clover plants, especially in the southern and western areas where sufficiently heavy rainfalls gave the plants a good start. There is a considerable amount of sweet clover in bloom in most areas, especially in fields which were cut early or have been pastured by cattle.

At several apiaries I visited yesterday in Richland County (southeastern North Dakota) I noticed the bees were flying vigorously and were bringing in nectar. The main source appeared to be white sweet clover bloom.

Colonies: In general, colonies are fairly strong and, with the exception of a few places where the nectar flow tapered off early, they are well stocked with honey.

Prices: Most beekeepers whom I have met of late are very much dissatisfied with honey prices but are hopeful that the situation may soon improve.

Miscellaneous: Following the enactment of legislation providing for the licensing of beekeepers and the charging of inspection fees, the State Department of Agriculture has been able to make a more complete inspection than has ever been possible before. To date, this season approximately ten thousand hives have been inspected in 32 of the 53 counties, with less than 2 percent of AFB found. Diseased colonies were burned. Re-inspections were made wherever the disease was previously found but there has been very slight re-occurrence of the disease. The first season's results under the new licensing laws have been most gratifying from the standpoint of rendering a more efficient inspection and disease eradication service. For the most part the program has met with a very satisfactory response from the beekeepers and will probably continue until some better method of raising funds is developed for the protection of the bee industry. The funds taken in from license and inspection fees are supplemented to the extent of a continuing appropriation of $1,000.00.—J. A. Munro, Fargo, North Dakota.

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MINNESOTA, September 3.

Weather: Generally speaking, this past summer northern Minnesota was hot and dry, while eastern and southern Minnesota had plenty of moisture and many ideal sunny days of nectar secretion.

In northern Minnesota a hot, dry June hastened development of plants, to start the honey flow earlier than usual. A continued dry July brought the flow to a dwindling end early in August. There are spotted areas that did or did not share in sufficient rainfall at a time when it would make for nectar secretion. Fall rains may save young sweet clover plants, but up to this writing considerable damage seems to be done.

Crop: As is the weather, so is the honey crop. In direct consequence of such weather conditions, crop averages run from 40% in parts of the "Valley" to considerably above normal, the higher averages in the southern half of the State. Quality of the honey is excellent, some beekeepers reporting a lighter-bodied honey than other years.

There will be practically no fall flow in the Red River Valley, as dependence on sweet clover is the main nectar source. At this writing, in southern counties there are good prospects of a fall flow from Spanish needle, goldenrod and other fall-blooming plants, if weather conditions favorable to nectar secretion prevail.

Market: With a lingering memory of high World War honey prices, with newspapers reporting sugar hoarding and uncertain fluctuations in many commodity prices, we may expect most anything possible to happen to honey. Although market conditions have been going in a discouraging "low", producers know that the United States crop is much shorter than last year, and so there is consequent reluctance to sell until necessary. The uncertainty of a price rise may serve as a check on producers who "dump" their honey and so depress the market.

Considerable inquiry is evident among large honey buyers with offers generally a little higher than at first. Retail honey packages are selling at last year's prices with a moderate demand, which will undoubtedly pick up as colder weather comes.

Miscellaneous: There are reports that the yield of alsike clover seed was very spotted this year. Fields within flying range of the bees yielded 2½ to 4½ bushels of seed per acre, while out-of-bee-range fields were cut for hay. Some farmers are learning the importance of a nearby apiary for the production of certain seed crops.

Weather conditions had their effect, also, upon the amount of swarming. In the Valley there was very little swarming, while sultry days with crowded hives in eastern and southern Minnesota made for excessive swarming. Some beekeepers report "the largest swarms I ever saw". As a natural result the percentage of queenlessness is much higher than usual.

The new 5-lb. glass jar is gaining in popularity, especially for chunk honey, since its use fits in nicely with both comb and extracted honey production.

Other than the occasional queenlessness, colonies are in good shape for winter with sufficient bees and stores.—Bruce L. Morehouse, Montevideo, Minn.

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OHIO, September 4.

Weather: Europe now has its "black-out" and war while Ohio has been and is still having its "burn-outs" from drouth and dry hot weather. We are now better than five weeks without rain and now more than four inches short on annual rainfall.

The majority of the fields are burned brown as a natural consequence of this condition. However, unfortunate for farmers and beekeepers in this state, we are justly thankful that we are located in the good old United States of America and not in Europe. We can still carry a smoker without a gas mask.

Honey Crop Conditions: At this writing it would be next to impossible to even guess at the crop conditions but I think it will be far under the expectations of all. So, your guess is just as good as mine. In central Ohio while the white sweet clover was at its best a strange condition took place. In two days' time the fields changed from green and white to a solid brown. And so ended the sweet clover flow for the season with beekeepers very much disappointed and the bees took their revenge out on their keepers. In districts where aster and goldenrod produces a fall flow it looks promising if we get rain.

Market: The price of honey at this writing is close to last year's prices, and sales at this time of year are slow. With a short crop and, at least, a four-year war now in progress in Europe we may expect a better price by early spring. Sugar has already made an advance.

Miscellaneous: Without the farmer the beekeeper would soon be out of business

and, perhaps, vice versa to a great extent. In times past beekeepers have spent much time on the study of bee performance, proper equipment, disease and proper methods of supering. By the time we have thoroughly learned these methods someone comes around and proves conclusively that we are wrong and we must adopt some other method. This is not called dumbness—it is in reality "progress". We do know a lot about bees and equipment and we still have a lot to learn. Now let us depart from the hobby part of the business for a time and dwell on the portion of the business that really makes us our profits, or in other words—our bread and butter.

I believe the time is here when we, as beekeepers, should as a protective measure to ourselves, turn our immediate attention and efforts to bee pasture. It is a known fact that in some adjoining states and even in parts of Ohio, root-rot on legumes, especially white sweet clover, is prevalent. With the aid of the farmer let us declare a state of war against this approaching enemy.

Get in touch with your local County Agent and all farmers with land adjoining your bee yards and go into details with them relative to a cure and prevention of this enemy. Also go to the Agronomy Department of your nearest college and they will be glad to assist you by analyzing the soil from the different fields in the locality of your bee yards (you, of course, to get samples of the soil in two or three different locations in the field in the quantity of about one pint) and inform you just what the soil needs and if it will successfully grow clovers that will be profitable to the farmer and the beekeeper. About 90% of the soil of Ohio needs lime and needs it badly. This will mean more clover and other crops per acre and more clover naturally means more honey per colony for you. It would also be profitable for the beekeeper to furnish part or all of the white sweet clover seed with a gentleman's agreement with the farmer that the field in which this seed is planted be either pastured or let set for seed. This should not average a cost to you in excess of 15 cents per colony and may produce a full super or more of honey per colony.

Our equipment and bees constitute our assets. If we do not have ample bee pasture to furnish a fair crop of honey these assets are likely to become a liability. I honestly and truly believe that the suggestion offered in this article will assist us in keeping our assets as they should be. I further believe that a scientific study of agronomy and the advancement of honey plants in your locality will help us all in getting closer to the foundation of success in beekeeping. How many colonies you have is not as important as how much surplus honey they can produce per colony. Therein is your profit. I would be pleased to have some other beekeeper voice his opinion on this really vital subject.—W. A. Coulter, Columbus, Ohio.

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NEW JERSEY, September 1.

Weather: The opening of spring, although about two weeks tardy, brought promise with it. The various flows of that period followed each other in their regular order and taken collectively furnished colonies with plenty of pollen and a steady supply of nectar. Everything seemed all set for a boom year. The first thing to spoil such a promising picture was the tulip flow. It just did not seem to materialize, with the result that with the end of blackberry bloom during the first week of June most bees were hard put to make more than a living. This condition prevailed quite generally over the northern part of the State at least.

During this same time it was becoming increasingly apparent that lack of rain was beginning to have an adverse effect upon vegetation in general. By June 20, clover, which had yielded but little, was a sorry sight to the beekeeper. Fortunately showers came during the next week which revived the plants and nectar came in freely for a while. Following these showers in latter June the dry spell continued without benefit of any showers. Sumac, although deep-rooted, apparently did not do its best probably due to injury to the blossoms themselves by the hot dry air prevailing during their blooming period.

Honey Flow: Reports on the summer crop show a wide variation, but from poor to fair seems to be the usual answer with the quality averaging below normal. Locations not favored with a clover-sumac flow have been less fortunate. At the present time some nectar is being secured from goldenrod and smartweed and a good fall flow can be expected if heavy rains do not interfere.

Miscellaneous: Beekeepers have almost continually been interested in studying and attempting to improve their nectar sources. For the most part, efforts in introducing plants into an area have met with but partial success. On the other hand, sometimes a plant becomes established in a new area by accident and

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proves of value to beekeepers there almost as a surprise.

I came upon a plant this summer that might possibly belong to the latter class. As it was new to me and no one at the meetings could name it I sent a sample to Mr. Filmer for that purpose. He had it identified at the college as *Centaura Maculosa* or spotted knapweed. This is a relative of star thistle. It has a blue flower, is eagerly worked by bees in dry weather and thrives on dry ground. Evidently a newcomer to this country from Europe it is not as yet in general distribution, at least in this part of the State. It seems to be through blooming shortly after the middle of August.

This is being written on the 25th anniversary of the battle of the Marne. Again war clouds are hovering over Europe. One can not help but wonder how all of this will effect the future of beekeeping, and more than that, not only our own destiny but that of this country and many others as well. Perhaps it's just as well we can't look ahead very far.—John Conner, Caldwell, N. J.

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ONTARIO, September 2.

Weather: Another month of very dry, warm weather has passed here in Ontario. The flow of honey during this time was in line with the white honey flow in late June and early July. In each case the bees started to store with a bang and then hot and very dry weather ended the rush with the result that the crop was light. We did not expect much dark honey as acreage of buckwheat is very small. Every day in August was fine and the bees carried in some nectar.

Conditions: A summary of the activities of the bees we operate in different sections of Ontario is about like this: Almost a total failure from second crop of alfalfa in Wentworth County, no buckwheat grown there; Victoria County apiaries had plenty of buckwheat but very little rain and averaged about 80 pounds per colony. Here in York County the average is less than that, much of the honey being from alfalfa and red clover.

Many fields of red clover left for seed were swarming with bees so I presume they must have stored considerable honey from that source. With a long slow flow I expect that brood nests will be heavier than usual. At one yard where we did not put any supers back after removing light honey, the brood nests are certainly heavy. An examination shows that on the average the bees have plugged the hives with honey to the extent that only three or four combs have semi-circular patches of brood about six inches in diameter. During this warm weather the bees are about covering the outside of the hives as they are very populous. How will they winter? Of course, many will say that these colonies will be weak next spring even if they survive the winter, owing to the fact that the queens were crowded out and as a result not enough young bees will be present when they go into winter quarters. Perhaps this will be true, but I doubt it, and will loose no sleep worrying about the matter. While we can guage quite accurately the length of time worker bees live during the summer it is different when it comes to computing the length of time bees live when in winter quarters. Much depends upon conditions. I am quite sure that healthy bees with little or no opportunity to rear brood in the first half of the winter season will live until the following spring. No guessing about this, as anyone can prove this to his own satisfaction if he wishes to do so.

There was practically no swarming during the past season except for two days at one apiary. Bees at that yard are in ten-frame Jumbo hives and as there was little buckwheat at that location we were in no hurry to get supers on for the late flow. Briefly, this was our unusual experience: Light honey was put above escapes about August 8, and we did not go to take the honey off until August 15. We got to the apiary about 9:30 A. M., and first thing we saw was a large swarm hanging at the end of an apple limb. Evidently a young queen had led out a swarm as all queens had been clipped in the spring. A few minutes after that the bees started to swarm and we had a lively time for half an hour catching clipped queens and later letting them run back into the hives again. We removed the light honey and gave each colony a super of nine frames of foundation and one drawn comb. Not a colony was examined for queen cells and not a colony offered to swarm again and four days later practically every frame of foundation was drawn out and partly filled with honey. Of course, this would not happen in an early honey flow and these bees simply swarmed out because of being so crowded for room. The flow was over in a week and even if we did not get much surplus at that yard I expect the hives will be heavy for winter.

Honey Crop: With the light honey extracted and dark honey ready to be extracted we here in Ontario know the

worst or best, as the case may be, about the size of the crop. Our own average is as anticipated a month ago and final returns show that in my report to the Provincial Apiarist that it is within five pounds per colony of what we estimated.

Prices: As to prices, of course, just now with much of the world at war, no one knows what is in store. Locally the demand for honey has not been as good as in the past years and many reasons would account for this. One is the abnormally low prices of fruit, particularly peaches just now.

A few days ago I had lunch in Toronto with the manager of the grocery department of one of Canada's largest stores and he told me that he had bought 75,000 pounds of honey during the past week placing much of it in storage. As war had not been declared at that time evidently he made a good guess. He told me the price he paid and I can assure you that it was not high.

Many of us depend on export trade and at present we have no way of knowing just how shipping will operate. Needless to say, as these notes are written, we are not worrying so much about financial matters as we are about the more tragic possibilities that may be before us for sometime—no one knows how long—in the future.

Miscellaneous: In July Gleanings we were more than usually interested in Mr. Kreb's article on the matter of fumigating combs for wax-moth infestation. For years we have used Cyanogas in fumigating thousands of combs in our main building, 24 by 48 feet in dimensions. While we have never had any trouble, I always dreaded the possibility of an accident, so welcomed something just as effective and not so dangerous. However, I find that Chlorosol is prohibitive for so large a building as the cost is too high. Methyl bromide is not carried in stock here in Ontario so far as I can learn but a wholesale drug firm is inquiring for particulars and will let me hear from them later. As we could not wait for their report, after some inquiry I bought a gas mask a few days ago. I scattered seven pounds of Cyanogas in our extracting room and in a day or so we will examine to see how moths have been handled. In using this mask, although assured by a well-known firm that it was 100% effective, I must confess to feeling a bit nervous at first when showering the dust all around and over the combs. However, no harm resulted and at least it gave me a slight feeling of what millions of people over in Europe must have to endure as part of their daily routine.—J. L. Byer, Markham, Ontario.

"Honey and Health"

Ellanora, 3 years old, started her diet of honey and milk when she was three weeks old and still gets a big glass of milk and honey twice a day. Charles Leslie, 2 years old, was started on his milk and honey formula when three days old. His Daddy brought a jar of honey to the hospital so he could have it. He, too gets a tall glass of milk and honey twice a day. These youngsters have always been strong and healthy.

We attribute their good health and energy to their daily diet of Nature's own sweet,—honey.

We have our own bees—25 colonies. Neither child is afraid of them and they both like to help their Daddy work the bees, and especially when he extracts for there are always many good bites then.—Mrs. Leslie A. Shaw, Albuquerque, New Mexico.

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Heads of Grain from Different Fields

A Quotation

"Marvelous circuit of nature! The warmth of the sun's rays has produced the small sweet drops of nectar in the expanding blossom of the plant; the bee has transformed the drops of nectar into honey, and now must the honey, re-entering the body of the bee, become in turn a source of warmth and life."—Glock, SYMBOLIK DER BIENEN, pp. 46-47.—Submitted by Austin E. Fife, Palo Alto, Calif.

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Bee-Moans

The man who sealed up a swarm of bees that settled in between the brick walls of his house;

The man who came down to collect a per cent of the honey we took off because our bees had spent a part of the summer in his flowers;

That honey ants like honey as well as I do;

That because we didn't combine colonies this summer we took off but half as much honey from twice as many hives, as our neighbor who combined;

The swarm that got away;

The span between decreasing honey prices and increasing production costs.—L. H. Kohr, Wichita, Kans.

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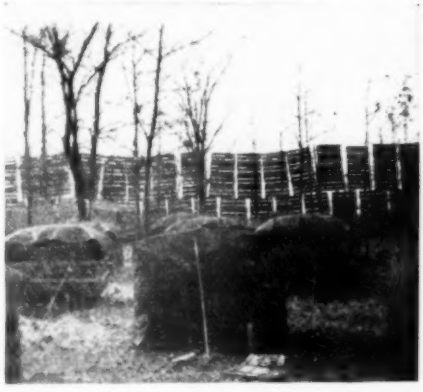
Orange Crate Windbreak

My windbreak is made of wire-bound orange crates, the new style crates that lay flat. We get hundreds of these crates at the big city markets here for going after them. Myself and one helper, built this artificial windbreak, 90 feet long and nine feet high, in two days. We stretch 8 number nine wires to the desired height, so that we can clamp these crates tight to these wires, always leaving an open space the width of the hand between each section. The cost is very small, and we find this wind protection is very efficient. I believe this material will last for a number of years. It has stood some of the strongest winds I ever experienced. The bees in the picture were packed



Orange crates make a satisfactory windbreak.

in pairs, with clover chaff enclosed in slater's felt. For several years we have used a light crate made of lath, but we have found we get along just as well without the crate, but by using a form to hold the felt until packing is done and sealed with hot asphalt, then the crate or form is removed. Since not using the crate of lath we find that we don't have to be so careful about packing the top of the package, keeping it above the corner posts, before fastening on the cover, to keep it water-proof. This feature saves considerable time. —R. D. Hiatt, Columbus, Ohio.

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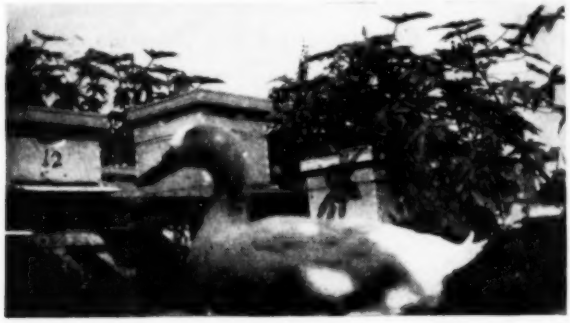

Quack! Quack!

Whenever I am in the bee yard our pet duck "Peepeye" is always paddling along, too.—Mrs. Jay Rice, St. Alban's, W. Va.

A Method of Queen Introduction ?% Successful

1. Make colony queenless; 2, lay a sheet of newspaper on top of the colony; 3, place an extracting super with 8 drawn combs and one frame of honey on top of this; 4, take the queen cage, remove wire screen, place a finger over the hole, grab an inner cover and place on top of extracting super; 5, shove back the inner cover and place the queen cage in with opening pointing down a little, cover quickly; 6, go away and forget it. I hope the boys write to me **their percent of success.**—Ray Wormley, Van Etten, N. Y.

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Worker Bee Locked Up

In reply to W. L. Morris, page 576, Sept., 1939, Gleanings, I will say from my observations that the bees know that if a worker were to eat royal jelly (Vitamin E) that worker would become a layer, commonly called a worker layer. It seems that there is an irresistable temptation to some of the workers to steal this forbidden food. Of course, if the worker were to become a layer, all of her progeny would be drones and so there is an inexorable law of death exacted upon any worker bee found to be eating of the forbidden food. I have found cases where the queen had been hatched out and left the cell and the "house maids" were tearing down the old cell and when one of their number was caught eating the remnant of jelly left in the cell she was immediately sealed up in the cell.—Jim McCrary, Oakland, Calif.

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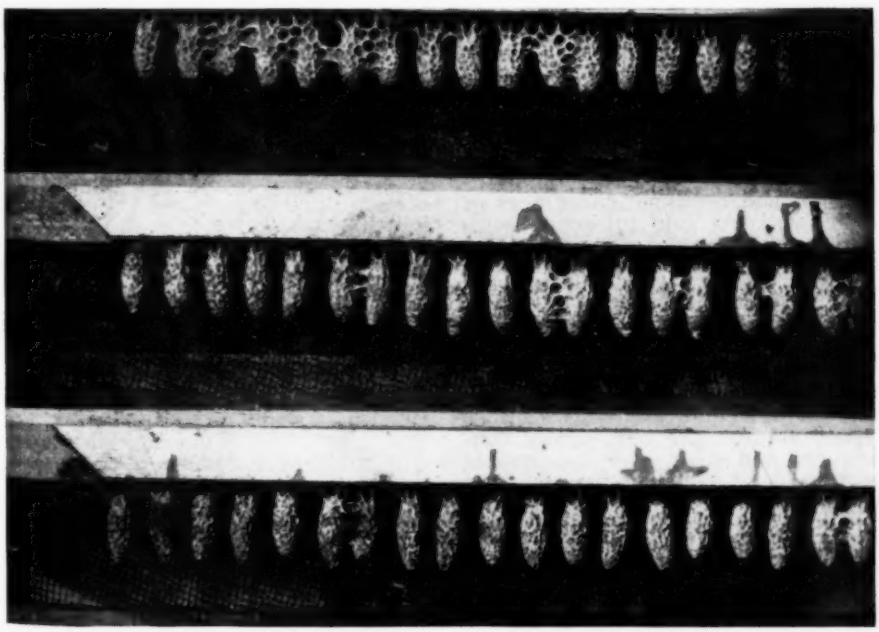
Buying Honey to Supply Customers

Bees are doing no good in this section of southwestern Pennsylvania. In most cases they do not as yet have sufficient honey stored for their own needs over winter. So it is up to me to follow your suggestion on page 581, of Sept. 1939 Gleanings, and buy from the more fortunate producer to supply my customers. — Leander Moore, Waynesburg, Pennsylvania.



Bars of beautiful queen cells, a delight to the eye of queen breeders. These cells were developed from larvae transferred from worker cells to artificial queen cell cups, then put into a strong colony made queenless and broodless. Picture submitted by Paul Hadley, Piggott, Ark.

Gleaming palaces and towers set off by thousands of trees and shrubs make an incomparable setting for the 1939 Golden Gate International Exposition on Treasure Island in San Francisco Bay.—Golden Gate International Exposition.

PROGRAM TOPICS AND SPEAKERS

National Beekeeping Conferences Sacramento, California, Nov. 7 to 10

While the program of the National Beekeeping Conferences is by no means complete, it is possible at this time to list for publication some of the speakers scheduled to take part together with the subjects they will discuss. In summarizing the many suggestions received from beekeepers throughout the country, we find that three general topics predominate, **organization, marketing,** and the **work of the American Honey Institute.** In addition, there are other problems suggested for consideration, such as the international problem of border inspection between the United States and Canada, or the inspection and certification of bees or honey entering into interstate commerce, equalization of freight rates on honey with comparable food stuffs, the role of pollen in the welfare of the colony, nectar concentrations, the supersedure problem, and many others.

It is evident to all of us that it will not be possible to transact the business of the different organizations represented at the beekeeping conferences and cover any appreciable portion of a constructive program unless time is conserved at all points. Consequently, committee meetings will be scheduled for the hours between 8:00 and 10:00 a. m., during the noon recess and after the afternoon program on each day. This plan will enable the different organizations to nominate their officers and to transact routine business in committee rather than before the general assembly. For this reason, it is urged that the presidents of the various associations appoint their different committees prior to the opening date of the convention so reports may be ready at the first meeting of each committee.

The **general plan** of the program will be as follows: Registration and the get-acquainted hour, together with committee meetings, between the hours of 8:00 and 9:30 each morning; between 9:30 and 10:00 a. m., committee reports and appointments, and other routine business of committees that need to come before each general assembly; topics for discussion to be presented between 10:00 and 12:00 and 2:00 and 4:00. The noon recess will be at the disposal of the convention delegates with certain luncheons and committee meetings scheduled to meet the needs of all groups. Group dinners will also be scheduled for Tuesday evening.

The program will be in charge of the American Honey Producers' League on Tuesday, the American Honey Institute on Wednesday morning, the Apiary Inspectors of America on Wednesday afternoon, and a general session of all groups on Thursday. The Women's Auxiliary will meet at a luncheon or dinner program to be arranged for by Mrs. Krebs and will have a definite spot on the program to be arranged in the form of an address by Mrs. Duax, the president. There will be a public meeting Tuesday evening, the banquet Wednesday evening, and we will go by boat, train, or automobile to San Francisco on Thursday evening so as to be on hand for the con-

cluding day at Treasure Island on Friday, November 10. (It takes only 2½ hours to drive safely from Sacramento to Treasure Island or an over-night boat trip on the Delta King or Delta Queen.)

The **speakers?** We cannot announce all of the principal speakers at this time and we have had difficulty in limiting the number to the length of the program so as to give ample time for discussion of all topics. But the beekeepers of the country and the beekeepers of the West in particular will be fortunate in hearing a splendid array of the top-notch authorities. Mr. E. R. Root will be the dean of all speakers and a most welcome visitor to California. Then there will be other editorial representatives of the different bee journals, a group that will make any convention well worth while, including Mr. Cale or Mr. Dadant (we hope both will come and bring Mr. Pellett), Mr. LeStourgeon and Mr. Benton. These gentlemen will treat of general topics dealing with the many phases of the beekeeping industry. We read their editorials with much interest, how much better it will be to hear their words of wisdom from the convention floor.

Mr. Jas. I. Hambleton, in charge of federal beekeeping investigations, will be there and he and Mr. Root will be the principal speakers of a public meeting on the opening night. Mr. Harold J. Clay will represent the Federal Bureau of Agricultural Economics and will give us some inside information on the reasons for present honey prices, methods of reporting, etc. Mr. Todd and Mr. Vansell, of the Pacific Coast Bee Culture Field Station, will report on investigations dealing with pollen and nectar secretion studies.

Mrs. Harriett M. Grace, director of the American Honey Institute, will discuss the work of the Institute during the past year and outline plans for the future. Mr. M. S. Stone, president of the A. H. I., and Mr. Lewis W. Parks, will discuss the organization, aspirations and possibilities of the Number 1 honey advertising agency of our beekeeping industry.

Marketing problems will be discussed by T. W. Burleson of Texas, R. J. Bradshaw of Idaho, George B. Wright, Wendell Shore, and E. F. Lane of California, as well as others. Mr. C. E. Lush of Orange, California, will outline the formation and work of the California Honey Promotion Committee. Requests have been received for information concerning the selling methods of various cooperative groups and pools and space on the program will be left for such discussions.

The package bee and queen producers will hold a luncheon or dinner meeting for the discussion of special problems. Supersedure of queens and contributing causes is a matter for general discussion on Thursday morning when delegates from various affiliated associations will discuss special problems that should have national consideration.

In closing I want to suggest that each and every beekeeper who **would like to attend** this convention investigate the special rates being made by the railroads and the bus lines from all points in the United States to the Golden Gate Exposition. You will be surprised at the reductions. **Do this now** in order that you may find out in time that it will not cost half as much as you first thought. You will be with us if you really make an effort. The Senator Hotel is being designated as headquarters for the convention but there are many hotels within a few blocks of the convention hall and actually hundreds of first class tourists' accommodations in and around Sacramento. There will be room for all at moderate prices. We want to see you in Sacramento, November 7 to 10.

J. E. Eckert
Davis, California

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PROGRAM OF THE ANNUAL CONFERENCE OF THE Southern Beekeeping States Federation, at Vicksburg, Mississippi October 30-31, 1939

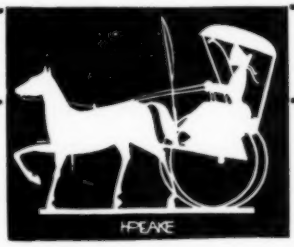
Monday, October 30

A. M.

8:00—Registration. Hotel Vicksburg.
9:30—Assembly.
9:30—Welcome Addresses:—M. S. Fortune, President, Southern Beekeeping States Federation, Mayhew, Miss.; Mayor J. C. Hamilton, Vicksburg, Miss.
9:40—Response: E. G. LeSturgeon, Editor, The Beekeepers' Item, San Antonio, Texas.
9:45—Reading of Minutes. A. V. Dowling, Secretary, Valdosta, Georgia.
10:00—Activities of American Honey Producers' League During 1939; George W. Bohne, President, A. H. P. L., Luling, Louisiana.
10:20—Some Suggestions for Increasing Consumer Demand for Southern Honeys, C. H. Bishop, In Charge Public Rela-

(Continued on page 656)

Spinster Jane Says:



We are having a great deal of rain—too much altogether—and it may be impossible to get the grain harvested properly. In many places it has stood stooked in the fields for over a week. Although my feet are always wet, looking after chickens, getting vegetables, etc., yet there isn't a tweak of rheumatism. Can it be because of the many stings I've had?

And speaking of stings, I must tell you of rather an heroic treatment for bee stings that I saw recently. A former Assyrian, now a good Canadian merchant and business-man, practised the cure, and it reminded me of the cauterizing done when bitten by a mad dog or a poisonous snake. The bee stung this young man. Quick as a flash, he saw that the stinger did not remain, then applied a lighted match to the spot. The burn did not form a blister, either. He said it was because the flame acted only upon the venom, counteracting the effect of the poison. I'm wondering which is worse—the cure or the disease—but, with those to whom bee stings are allergens (Is that correct?), it might be worth trying.

War has really come at last, and Europe is in a turmoil, through one man's greed of power. Where are the years of peace so assured when that Munich treaty was made? The Sudeten, Austria, Czecho-Slovakia—all these could not satisfy the craving of that insatiable maw, for power and territory. Another "scrap of paper", and another war!

Do bees ever fight when robbing? I think not. They know better. They are greedy for stores, and when a weaker neighboring colony lets its weakness be known, it falls an easy prey. But, bees do not destroy property. They loot, and they kill the enemy in fair fight, fair except that there are overwhelming numbers against the few, and that means it is over quickly, at least.

Bee warfare, we can understand. Human warfare, or it should be called inhuman warfare, is not that kind at all. It has been devised by the human mind, and is a horrible thing, fit only for demoniac dreams. Who but a demon, even in war, would think of torpedoing a peaceful ship, carrying only human, civilian freight? Who but a demon could drop bombs upon an unsuspecting city, without warning, leaving mutilated bodies of women and children writhing in blood?

Is any war honorable? We think it is. Ever since Cain slew his brother Abel, then asked sarcastically, "Am I my brother's keeper?", we have known we are responsible for the well-being of a brother. Leave Europe to the Europeans, we say, and let America look out for America. All very fine if there are not too many Athenias, too many Lusitanias. Fine, too, unless democracy loses—an unthinkable thing. Here in America, thanks be, we are at peace. We can sit and listen to the bees zooming homeward, but can we forget that over yonder enemy planes are zooming overhead? At the sound—far from musical—human beings scurry like rats for shelter. They live in constant fear.

Why make a fuss if we have to live on a mere pittance of sugar? Those with bees have something better. But can we not do without sweets? What if we were doled out substantial food, insufficient to satisfy normal hunger?

How good to live in America, to feel that we are safe. How good to watch our bees at work, and try to forget the horrors of war!

But it is not for us to sit idle. Soon the trenches will be cold and muddy, so why not do our bit to help keep some soldier laddie warm. Along with the socks, we send, let us add all the luxuries and sweets we can save by doing without them ourselves. Only those who have lived in the trenches can give us any idea of what it is like. Rats, vermin, mud, chilling cold, and everywhere, in front, overhead, the ever-present menace of a watchful enemy.

Thank God for peace in America, and long may it continue.—Spinster Jane.

Talks to Beekeepers

M. J. Deyell

How Time Flies

It seems but a few days since we were checking over colonies this spring, getting ready for the main honey flow. Here it is, almost the close of the season, the surplus white honey removed and extracted, with the fall honey flow on.

Just yesterday I had a letter from a beekeeper in Australia who said it was interesting to note the difference in the seasons between this country and Australia, as their season is practically the reverse of what it is in this country. They are having their first signs of spring while we are having our first signs of fall.

Something Different Each Season

As I have stated in past talks, one thing that makes beekeeping interesting is that we never know what is around the corner. Each season is different from other seasons.

For example, at this time. (Sept. 15) we are having a very hot spell in Ohio, if I am not mistaken, the hottest on record for this season of the year. The day before yesterday I went with the boys to our apiaries in western Ohio. The thermometer stood at 97° in the shade. It was so hot in the apiary that we could not work long in the sun. We had to seek the shade and bathe our heads in cold water. That was the first time I ever had an experience of that sort in September.

In spite of the hot weather bees were bringing in some nectar. We wondered where they could be getting it. Some goldenrod was in bloom, and a little late alfalfa. White asters are just beginning.

The Last Round-up

We like to check carefully all colonies during the month of September, if possible, or early October, if weather permits, to see that they are well provided with winter stores, also to replace old worn-out queens. That is what we were doing in western Ohio the day before yesterday.

We were agreeably surprised at the relatively few old queens found. We operate our colonies in double brood chamber, or deep food-chamber hives. About 80 or 85 percent of the queens are superseded in August or September. Provided the stock is good we do not object to having colonies supersede their queens, because good queens are produced. At this season of the year the small loss in brood rearing, due to supersedure, does not weaken the colonies to any extent. We do, however, object to colonies being superseded in the spring of the year, during the upgrade of heavy brood rearing. We check through our colonies carefully in the spring, during the month of May and if we find any old queens that were not superseded in the fall and are about to be superseded in the spring, we pull them out and put in young queens. That is our method of requeening. Some years ago we did a wholesale requeening in August. We have gotten away from that because it takes a lot of time and interferes with the morale of colonies. Furthermore, a considerable percentage of the queens are likely to be lost in the process of introducing.

I have talked with quite a number of commercial beekeepers over the country and they are following the same method.

Now please do not misunderstand me: I believe in maintaining young, vigorous queens of good stock because the queen is still "the soul of the colony". However, I honestly believe that there may be a great deal of lost motion experienced in attempting to requeen in a wholesale way, when conditions are not right for requeening, and if new queens are not actually needed. We requeen continuously, when new queens are needed. It seems apparent that in some instances queens may do as good, or possibly better, work during their second year than during their first year.

Another Angle to the Proposition

Some years ago when colonies were kept in smaller hives and comb honey was produced on a larger scale than today, queens were restricted in their egg laying and therefore lived longer than at present in large two-story brood chambers in the production of extracted honey. In western Ohio where we operate, honey

(Continued on page 648)

Asked and Answered

Too Late for Transferring

Question.—I have purchased five colonies of bees, hives, stores and all, and want to get them installed on new Buckeye hives on new frames, new 3-ply foundation, new supers and packed rims before winter. The colonies are in 2-story single-walled hives. They are extremely vigorous. Their present hives are very old and dilapidated, and the frames in the brood chambers haven't been moved for at least 5 years and probably 10. They are probably honey-bound, for at night the bees apparently are not all able to get inside the hives. Please inform me as to how to supply new supers and frames, so that the bees and their stores can be moved to them, and the old equipment discarded before winter.—Herman N. Harcourt, New York.

Answer.—We suggest that you leave your five colonies of bees now occupying two-story, single-walled hives, in the hives they now occupy until next year at the beginning of the main honey flow, when they can be transferred into modern, movable-frame hives. In our opinion, it would now be too late in the season to attempt to transfer bees this year. To successfully transfer bees from old hives into new hives, containing frames with full sheets of foundation, there should be a good honey flow on. Such a honey flow would enable the bees to get established quickly in the new hives, also to draw out the full sheets of foundation into combs. And so it would be preferable for you to winter your colonies as they are, giving them some protection against the cold weather, and then plan to transfer them next season.

Weather Too Wet for Bees to Ripen Honey

Question.—We in southern Ohio have been having very wet weather (written July 7, 1939) and the air is full of moisture. I examined some of my colonies the other day and found very little sealed honey. Some of my colonies have had 35 to 50 pounds of honey for some time but have not sealed it. I noticed that the honey had little bubbles in it. I understand that it has absorbed moisture and is probably fermenting. Will the bees be able to ripen it, or what can be done with it to make it marketable?—W. E. Grossman, Ohio.

Answer.—It seems evident that the unusually wet weather has prevented the bees from curing honey in the supers in normal fashion. If we have dry weather from now on, the bees are likely to ripen this honey properly. It wouldn't be surprising if we should have a spell of dry hot weather. As a rule, one extreme follows another. At any rate, you should leave your honey on the hives until it has been thoroughly ripened by the bees. If you take if off too early, it is likely to ferment and that makes trouble. Any honey that starts fermenting after it is put into containers, after having been extracted from the combs, should be brought to a temperature of 160 degrees Fahrenheit and held at that temperature for a short time, in order to drive off the excess moisture in the honey, which causes fermentation if not expelled.

Honey for Asthma

Question.—What is your remedy for asthma, using honey?—Jess Hurt, Illinois.

Answer.—There has been something in the newspapers to the effect that certain kinds of honey containing a particular kind of pollen are beneficial in the treatment of asthma. There is probably some truth in this statement, but everything will depend upon the kind of pollen contained in the honey. Some work has been done in Texas which goes to show that certain honeys may be of great benefit. In your case you should first determine what particular pollen is causing trouble. If it is pollen from ragweed, bees do not visit that plant, and therefore the eating of honey to cure ragweed poisoning would be of little value. If the trouble is caused by dust from timothy hay or any other hay crop, honey would be of no special benefit for the same reason. Consult a good doctor, find out what your allergies are, and if one of them is pollen from a honey plant, then we would advise you to eat the honey containing that pollen, but frankly, we are fearful that you may not receive a great deal of benefit in that way.

Getting Food Chambers Filled

Question.—I wish to add another story to my single story hives and do not know if they will be drawn out or not, as the flow is practically over now, but we will have a late light flow from goldenrod and heartsease.—W. T. Jeter, Alabama.

Answer.—The best time to add a super to use as a food chamber or upper brood chamber, is the beginning of the main honey flow in your locality. If you are likely to have a fall honey flow in your locality, you may add this super at the beginning of this flow with the hope that the super may be filled this fall. If you do not have supers of drawn comb to put on, you may get full sheets of foundation drawn out if the flow is strong. If the honey flow is not rapid, it may be impossible to get full sheets of foundation drawn out into combs and filled with honey. You would then have to winter your colonies in single story brood chambers and put on the extra brood chambers next spring, at the beginning of the honey flow.

Bees Not Storing Surplus

Question.—We have about 15 colonies of bees, 5 of which have supers. Our bees, we thought, were doing well. We went into them the other day, and found that there had been no new comb made since spring, and less honey than there was in the spring. There have been plenty of flowers. The bees appeared active, and although they laid out considerably, so far as we know, we have not had a single swarm this year, which is unusual, since last year they swarmed a good bit.—John J. Branham, Kentucky.

Answer.—It seems apparent that conditions have been unfavorable for nectar secretion in your locality so far this season. We are assuming that your colonies are normal in strength, ready to store surplus. It is quite possible that your bees may yet gather some surplus from fall flowers. Our bees around Medina have not stored any surplus worth mentioning thus far, but we are hoping that they may secure some fall honey, and they will, if the weather is suitable for nectar secretion. We do hope that your bees may get enough honey for winter stores. If they do not, you should feed them sugar syrup. Once in a while there comes a season which is unfavorable for storing surplus honey. It is rarely we have a season when bees cannot store enough honey and pollen for stores. If nectar is not in the fields, or rather in the honey plants, there is nothing the beekeeper can do about it, except to move his bees into a locality where nectar is available. Moving bees is rather expensive. There are, however, beekeepers who practice migratory beekeeping, and who are equipped to move bees easily and quickly.

Alfalfa Not Yielding

Question.—On page 566 of your September issue I note your reference to alfalfa as a coming factor in the supply of nectar for the bees; also on page 583 of the same issue another article of the same nature, as well as many other like references from time to time. Last spring I moved three colonies eight miles out in the country and placed them at the edge of an orchard immediately facing a field of alfalfa, which has now blossomed and been harvested twice, and is now coming into its third blooming period. I have noted carefully, and have never seen a bee on a single blossom at any time. In view of your many references I am at a loss to account for this. I have talked to other bee men and they report the same condition.—Leander Moore, Pennsylvania.

Answer.—Some years ago it was believed quite generally that alfalfa yielded nectar only in regions west of the Mississippi River. During recent years a different kind of alfalfa, the Grimm variety, was introduced in Michigan. This variety has spread throughout the central western states, also into some of the eastern states. In the central western states, the Grimm alfalfa appears to yield nectar under favorable conditions. It seems that this alfalfa has to become acclimated to any region. If alfalfa is not yielding in your locality, it may be due to unfavorable soil and weather conditions or to the fact that it has not yet become thoroughly acclimated to that region. You might ask your farm bureau agent what kind of alfalfa is grown in your locality.

Marking Queens

Question.—Is any special paint or coloring matter used to mark queen bees so they can be seen more readily, or will just ordinary paint be all right, or would any of the chemicals in ordinary paint be harmful?—E. P. Leinenweber, Pennsylvania.

Answer.—Regular Duco enamel paint, either red or yellow, can be used for marking queens. The paint should be applied with a fine camel's hair brush to the top of the thorax. Only a small amount of paint is necessary. By using a bright color, the queen can be found easily. This paint can be obtained from any reliable paint shop.

Getting Rid of Old Bees Before Winter

Question.—I have an acquaintance who keeps some bees and gives me the following as his plan for preparing his bees for winter. I would like to know if this plan has been tried and if it has any merit. Near the close of the honey flow on a day when most of the worker bees are out, he moves the hive some distance and so the returning bees fail to find the hive and perish. His idea is that these worker bees would die before spring and be consumers while alive and also clog the hive during the winter.—J. B. Blosser, Michigan.

Answer.—We have heard of the proposed plan of depleting strong colonies of old bees late in the fall. In our opinion, the plan is not feasible. The old bees serve a purpose, and should be left in the hive. Nature takes care of the situation very nicely if given a chance. We like to have colonies as strong as possible at all times of the year. Old bees will die off after they have served their day and generation.

Hermaphrodite Bees

Question.—Have you ever heard of a bee that had a worker head and tongue, but the abdomen of a drone (plus the drone's reproductive organs), that would gather honey and pollen and do other duties of a normal worker bee? Also have you ever seen a bee that had a head of a drone but, the abdomen of a worker bee (plus the sting)?—G. A. Pauli, Colorado.

Answer.—You will find this question, which is a very interesting one, under the head of "Hermaphrodite Bees" in the A B C and X Y Z of Bee Culture. It appears that Nature sometimes makes mistakes, and we find workers with drone heads and drones with worker heads. We occasionally find a bee that is a worker on one side and a drone on the other. Sometimes a drone will have a honey basket like that of a worker, and workers will sometimes have drone legs. In addition we find drones with different colored heads, namely, red, blue, and white. The last-named appear to be blind drones.

XUM

TALKS TO BEEKEEPERS

(Continued from page 645)

begins to come in in early April and continues for almost six months. This means a terrific strain on queens. A queen bee is something like a person in that she is capable of doing a certain amount of work during her lifetime. If given an opportunity, she may lay herself out in a relatively short time. If her laying is restricted, she naturally lives longer. It is the same with a human being. Some humans burn themselves out before they are 50, and others conserve on their energy and live out their allotted time.

A Word About Double Brood Chamber Hives

Since I mentioned double brood chamber, or food-chamber hives, I want to take time to clarify just a few points that have been raised from time to time, in connection with the manipulation of colonies in these hives.

When we first began using the food-chamber hive we kept the food chamber on the top of the pile of supers during the honey flow. At the close of the honey flow, after the surplus honey was removed, we let the food chamber down onto the brood chamber, removing the queen excluder. It should be said that this is the surest way of getting the food chamber jammed full of honey. In regions where the main honey flow shuts off rather abruptly and where there is little, if any, fall honey flow, this method of managing the brood chamber is to be recommended.

We have found, however, around Medina, also in western Ohio, that each queen can be given access to the bottom brood chamber, also food chamber, now commonly called the double brood-chamber hive, throughout the season. In western Ohio the honey flow tapers off slowly, largely because of sweet clover and alfalfa. As the honey flow begins to taper off the bees drive the queen down into the bottom brood chamber and they fill the food chamber, or upper brood chamber, with honey. This is exactly what we wish to have happen.

Well, to get back to our western Ohio experience, we occasionally found a colony that had considerable brood in the upper brood chamber. Of course, some late fall honey is likely to be stored in these brood chambers, and they may yet be well filled. We took no chance, however, on future possibilities. We transferred these full combs of brood down into the bottom brood chamber and substituted full combs of honey above, because we want the upper brood chamber jammed full of honey for winter.

The reason for wanting the upper brood chamber well filled is that the winter cluster forms between the two sets of combs early in the winter and as the winter proceeds, and honey in the combs is slowly consumed, the cluster moves upward. It is quite necessary that combs be well filled with honey so that the bees may not run short of stores, also that they may be in contact with combs of honey continuously through the winter. During a very cold spell, it is difficult, if not impossible, for the cluster of bees to move laterally. In some instances we have found colonies of bees dead because all of the honey in the combs occupied by the cluster was consumed and the bees were not able to move sidewise or laterally to honey that was found on the outside combs.

Don't Fool with Subnormal Colonies

Some years ago, we used to waste a lot of time on weak colonies in the fall. We have gotten away from that. At present if the colony is queenless or below normal strength we doubled it up with another colony. Package bees can be obtained at a very reasonable price next spring, to stock all hives in which colonies died during late fall or winter.

There is a vast difference between a real colony of bees and a hive with some bees in it. I recall a number of years ago a young chap starting with bees who thought he would increase the number of his colonies late in the fall. He had one or two good colonies and divided them into one-frame nuclei in late August. Of course, all of the bees died. He had to learn by the trial-and-error method that dividing normal colonies in the fall does not pay.

To Winter or Not to Winter

Quite a number of beekeepers of the North are either letting their colonies die in the fall, or killing them with Cyanogas, saving the hives with combs containing honey and pollen to put bees into the following spring. This appears to work out quite well in some areas, especially in the far North where wintering bees is a difficult proposition. Some say that colonies started from packages in the spring will store as much surplus as wintered-over colonies. Perhaps so, in some regions but not around here.

Wintering in Single-Story Hives

For beekeepers who do not use food-chamber hives it is necessary to carefully estimate the amount of honey in each hive. In some regions where a fall honey flow is prevalent, colonies will fill the combs in the brood chamber as the last brood of the season emerges.

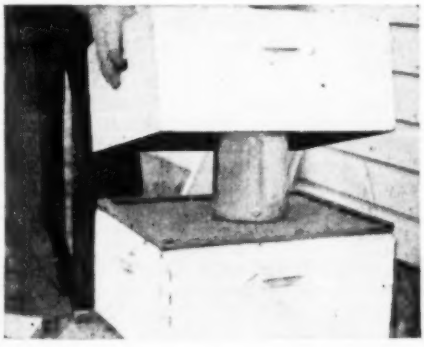
In order to estimate the amount of honey in a single-story hive one should

keep in mind the fact that a standard comb filled with honey contains between five and six pounds. One can estimate, approximately, on this basis the amount of honey in each hive.

Another way to determine the approximate amount of honey in a hive is to weigh the hive and bees. The gross weight of a single-story ten-frame hive of bees should be not less than 80 or 85 pounds which leaves about 50 lbs. of honey for a colony. The hive with a metal cover and inner cover, also empty combs, weigh about 33 pounds. Making allowance for some pollen and about five pounds of bees, 40 pounds should be deducted from the gross weight to determine the amount of honey. Any shortage of honey should be made up by substituting combs heavy with honey, if available, for empty combs, or, by feeding sugar syrup.

How to Make and Feed Syrup

To estimate the amount of sugar syrup needed one should plan for as many pounds of sugar as the colony is short on stores, not allowing for water used in making the syrup. For example, if a colony needs ten pounds of stores, ten pounds of sugar should be secured.



A ten-pound pail of warm sugar syrup, having the lid of the pail punctured with 20 small holes made with a 3-penny nail, is inverted over the hole of the inner cover. An empty super is placed under the outer cover.

To make the syrup, use only the best grade of granulated sugar. Dark sugar will not do. Syrup should be mixed in the proportion of two parts of sugar to one part of water, either by weight or by measure. The water is heated to the boiling point, the sugar is stirred in and mixed until all of the granules are dissolved.

Winter Protection Essential

Protection against cold weather in the North is essential. Some used packed hives. Colonies in single-walled hives in the North should be packed. If no regular packing cases are available, each hive may be placed in a box large enough to allow three or four inches of packing on the sides or ends, five or six inches on the top, and two or three inches on the bottom. A bridge or tunnel can be built from the entrance of the hive to the outside to permit the bees to fly on warm days. The opening at the outside of the tunnel should be at least 3″ by ⅜″ to exclude mice. The box containing the packing should be covered with building paper to keep out water.

Some place building paper around each hive, then pour forest leaves or coarse planer shavings in the space of 2 or 3 inches between paper and hive, also on top and tie or paste the top piece of paper down over the sides to shed water.

Protection from prevailing winter winds in the way of a high fence or row of trees is also essential. As a matter of fact, wind protection may be even more important than insulation for hives. It has been found that colonies that are very populous in bees, with an abundance of honey of good quality, as well as pollen, given adequate wind protection can withstand considerable cold weather.

It does pay, however, to apply some insulation to single-wall hives, to conserve on the energy of the bees, because bees are cold-blooded animals and when the temperature in the hive reaches 57 degrees F., the bees cluster on the combs. As the temperature gets colder, the bees form a more compact cluster. The bees are said to generate heat by muscular activity in order to maintain the temperature of the cluster. At no time during the winter does the temperature of the inside of the cluster go below 57* degrees F. It may go considerably higher. The bees on the outside of the cluster form a rim, or periphery, consisting of bees in close contact with each other. This rim retains the heat generated by the bees in the center of the cluster. As the winter progresses some of the bees in the rim exchange places with the bees in the interior of the cluster.

During a mild spell of winter the cluster will loosen to a certain extent. The bees take advantage of this mild spell to move on to fresh honey in the combs. As stated previously, the tendency of the cluster is to move upward onto fresh honey. If the outside temperature goes up to around 55° or 60° the bees may take a cleansing flight.

Remember the three fundamentals for good wintering: Populous colonies, an abundance of food, and adequate protection.

*On this point authorities disagree.

XUM

American Honey Institute News Notes

Since the beekeepers of America play an important roll in the production of foods, it is fitting that a definite time be set aside in appreciation of their contribution to the American table and an effort be made to serve honey in every home throughout **the week of October 23-30.**

• • •

The Institute has two new attractive leaflets and two new window streamers ready for you at cost. If you did not receive a sample copy of each, write to the **Institute.** Do place your order early. The **Institute's** literature is in great demand.

• • •

Do not miss the article on "The Flowers and the Bees" by Frank J. Taylor in Collier's for September 9, 1939. You will read it with keen interest and delight.

• • •

Miss Margaret Sawyer, Director of The Glass Kitchen in New York City is constantly working with honey. The Glass Kitchen is giving the **Institute** hearty cooperation.

• • •

Wilson & Company had one of the most attractive columns on honey in the September 28 edition of 123 newspapers throughout the country. George Rector, Food Consultant of Wilson & Company has Wilson's Tender Made Ham cooked in Honey. He says, "It's a Honey" and tells that we owe a great deal to the busy little bee. Without the bee he would be unable to give you the recipe for one of the tastiest, most attractive hams. Do try it.

• • •

Beekeepers make a growing and important contribution to the country's natural resources.

• • •

Let us tell the nation Who's Who in the American Beekeeping Industry by publishing the names and circulating the list far and wide. Will your name be on the list? Write the **Institute** for particulars.

• • •

Read the September issue of the Progressive Grocer and see the pictures of the attractive window displays of Honey.

• • •

Do people read the bee journals? Indeed they do. The **Institute** receives many letters asking about marketing something that was published in the bee journals or for **Institute** literature mentioned in the bee journals.

• • •

Sears, Roebuck and Company of Atlanta, Georgia, held a Honey Show at their market during the week of September 4. They secured cooperation from the State Bureau of Markets, the local food editors, radio and the local food distributors. **The American Honey Institute** literature was distributed. You will remember the fine article Mr. C. H. Bishop, the manager of this market wrote for **Institute** Inklings on The Marketing of Honey.

• • •

The Ohio State Council of Retail Merchants is working with the Beekeepers' Association in a program to merchandise the unusually good quality honey crop that Ohio has this year. Several chain stores are interested in cooperating with this program.

• • •

A 92-year old retired minister in the State of Washington is now adding more colonies of bees to his apiary.

• • •

Dorothy Dean of the Spokane- Review, Spokane, Washington, had an interesting article in the Review's Home Economics Department during August on canning. A recipe for Honey Pickled Peaches, Pears or Apples was given.

• • •

Everyone has regrets and the **Institute's** great regret is that a representative cannot attend the many state meetings to which it has received invitations. Is there some way that meetings in different sections could be planned so that speakers could attend without losing too much time between meetings?

• • •

Why not pass your copy of **Institute** Inklings on to a baker in your locality?

• • •

The Daily Telegraph and Morning Post, a daily newspaper, published in London, England, on August 17, devoted a half page to honey recipes. Among the recipes is a honey cake which was awarded a guinea prize, the prize going to Mrs. Margaret M. Wain, Craigie Knoll, Tickenham Hill, Somerset, England.

Buy and Sell Here

CLASSIFIED ADS

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate—7 cents per counted word each insertion. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it), count as one word. Copy should be in the 10th of month preceding.

HONEY FOR SALE

WHITE clover and light amber. Lewis Klaty, Carsonville, Mich.

FANCY clover honey, case or quantity. J. Stahlman, Grover Hill, Ohio.

NEW CROP choice clover honey, 6½c per lb. John Bour, Tiffin, Ohio.

CHOICE clover-basswood honey in sixties. Edwin Krinke, Bay City, Wis.

EXTRACTED clover honey. Sample 10c. Sowarby Apiaries, Cato, N. Y.

CHOICE Ohio clover honey in new 60's. Noah Bordner, Holgate, Ohio.

FOR SALE—Extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

HONEY—Light and light amber extracted. F. W. Lesser, Fayetteville, N. Y.

FINE clover honey, case or car. Leslie A. Davis, R. R. 2, Union City, Ind.

CHOICE MICHIGAN clover honey in new 60's. David Running, Filion, Mich.

NEW CROP clover in 60's; also light amber. E. S. Miller, Valparaiso, Indiana.

CHOICE clover honey in 60's. R. C. Bish, successor to Moore Apiaries, Tiffin, O.

CLOVER comb and extracted. Quotations on request. Howard Grimble, Holcomb, N. Y.

MICHIGAN'S finest well-ripened white honey in new 60's. Jay Cowing, Jenison, Mich.

NORTHERN Michigan clover honey in new 60's at 6c per lb. C. J. Freeman, Mesick, Mich.

FOR SALE—Fancy Iowa white clover extracted honey. Kalona Honey Co., Kalona, Iowa.

NEW CROP white extracted in new sixties. Case or carload. Harry C. Kirk, Armstrong, Iowa.

WATER-WHITE northern Iowa honey in truck and carload lots. Henry Hansen, Webb, Iowa.

CHOICE clover honey. New 60's, sample, 10c. Martin's Apiaries, Exchange St., Owosso, Mich.

CLOVER HONEY—Extracted and comb. Ralph Hibbard, 131 Benedict St., Watertown, N. Y.

ORANGE, palmetto and mangrove honey in new sixties. Peter W. Sowinski, Fort Pierce, Florida.

MICHIGAN clover honey in new cans and new cases. The Hubbard Apiaries, Onsted, Michigan.

SWEET clover honey, 7c; goldenrod, 6c; amber, fall, 5c. The Vik Apiaries, Independence, Ohio.

TUPELO HONEY—DELIGHTFULLY DIFFERENT. Send 10c for sample. State quantity wanted. J. M. Cutts & Sons, R. 1, Montgomery, Ala.

NEW CROP basswood flavor amber honey for sale. New cans and cases. Geiser Bros., Dalton, N. Y.

NEW CROP extracted clover honey. Prices on request. Sample, 10c. Frank R. Parmelee, Le Roy, N. Y.

FANCY Tupelo honey for sale. Sixties, 8c per lb. 10-lb. pail, $1.25. Stevenson's Apiary, Apalachicola, Fla.

NEW CROP clover comb, extracted, and chunk honey in shallow frames. H. E. Crowther, Cass City, Mich.

NEW CROP CLOVER extracted. Let me know the quantity you can use. Emery Horton, Holcomb, N. Y.

FOR SALE—Clover extracted, white. Twelve tons. Comb honey. Write for prices. N. B. Querin, Bellevue, O.

FINEST clover honey. White, $7.00 per case 120 lbs. Sample 10c. Arthur Thayer & Sons, Freeland, Mich.

CLOVER and Fall Flowers Honey for sale in 60-pound cans. Sample for the asking. W. S. Earls, New Canton, Ill.

CHOICE white clover honey in new 60, 10 and 5 lb. tins. Also comb honey. Harry T. Gable, Romulus, N. Y.

WHITE CLOVER extracted honey in 60-lb. cans. State amount wanted. Leonard S. Griggs, 711 Avon St., Flint, Mich.

CLOVER honey in cases, buckwheat and fall honey in kegs. Write for prices. Chas. L. Andersen, Weedsport, N. Y.

HONEY FOR SALE—All kinds, any quantity. H & S Honey & Wax Co., Inc., 265-267 Greenwich St., New York, N. Y.

FROM about 50,000 to 55,000 lbs. of processed honey. Write for particulars. F. W. Summerfield, Grand Rapids, Ohio.

NEW CROP clover extracted in sixties, 6c per pound; 1938 crop crystallized, half cent less. H. G. Quirin, Bellevue, Ohio.

FANCY white clover extracted honey, can or carload. Price on request. Sample 15c. Jos. H. Hoehn & Sons, Ottoville, Ohio.

WHITE and amber clover, also buckwheat in kegs and cans. Sample 10c, deducted from cost. Coggshall & Son, Groton, N. Y.

COMPLETE line comb and bottled honey, pure clover. Also packed in 5's and 60's. Central Ohio Apiaries, Inc., Millersport, Ohio.

RASPBERRY and clover, blended by the bees in 60-lb. cans for 8c a lb. Sample for 20c. Elmer Hutchinson & Son, Lake City, Mich.

CHOICE Northern New York clover honey in new 60's and 5-lb. tins. Send for sample and price. A. A. French & Son, Theresa, N. Y.

FOR SALE—500 cases comb honey in cartons, 20 tons white extracted. Will deliver in truckload lots. Robert Case, 156 West Avenue, Canandaigua, N. Y.

Quality Bred Italian Bees and Queens

Quality, not Price, Makes the Value

Beware and Buy Wisely

SUMMER PRICES

Untested young laying queens, ea. $ .50
Tested queens, ea. 1.00
2-lb. pkgs. bees with queens, ea. . 1.95
3-lb. pkgs. bees with queens, ea. . 2.55
4-lb. pkgs. bees with queens, ea. . 3.15
5-lb. pkgs. bees with queens, ea. . 3.75

LOOSE-QUEEN PACKAGES, SAME PRICE AS ABOVE.

Packages without queens, deduct price queens. 15% discount to dealers.

Plenty of young bees and queens. Place your order now for quick service. Full weights, safe arrival and satisfaction guaranteed.

YORK BEE COMPANY

Jesup, Georgia, U. S. A.

(The Universal Apiaries)

QUEENS 75c

2-lb. package with queen $2.45
3-lb. package with queen 3.15
15% to dealers.
No order too large, none too small to be appreciated.

OVERBEY APIARIES, Bunkie, La.

Italian Caucasian Queens 40c each

From good honey-producing strains

Weaver Apiaries, Navasota, Texas

CARNIOLANS CAUCASIANS

We still have a few fine queens left. Very gentle, winter well, build up rapidly during the spring, wonderful workers. You can still replace poor, failing queens or those in cross, ugly colonies. Price: untested, 50c each; tested, $1.00. Ask for free paper.

ALBERT G. HANN
Glen Gardner, New Jersey

WHEN WRITING TO ADVERTISERS, MENTION GLEANINGS

CHOICE white sweet clover, also extra light amber honey in new 60-pound tins by the case or carload. Dadant & Sons, Hamilton, Illinois.

ATTRACTIVE and delicious Fancy White clover individual comb honey. Weight about 3 oz. Also 10-oz. comb in 4x5 sections. Charles Mraz, Middlebury, Vermont.

HONEY PACKERS—Write us for prices on carload lots of California and western honeys. We stock all varieties. Hamilton & Co., 1360 Produce St., Los Angeles, California.

WE BUY AND SELL ALL KINDS COMB and extracted, carloads and less; also beeswax. H. Blitz, P. O. Box 3452, Philadelphia, Pa.

NEW CROP comb and extracted honey, also some 1938 crop at reduced prices. Write stating quantity and kind wanted. C. B. Howard, Geneva, N. Y.

CLOVER HONEY FROM CLOVERDALE. Ohio's finest clover extracted in 60's. Sample, 10c. Prices upon request. The Cloverdale Apiaries, Cloverdale, Ohio.

FOR SALE—New crop light amber and amber honey packed in new 60's and 5 and 10 lb. pails, also buckwheat in 60's, 160 lb. kegs. H. B. Gable, Romulus, N. Y.

NO. 1 to fancy light comb honey, $2.75 per case; No. 2 and amber, $2.25; in window cartons, 25c extra. Extracted, 6c lb. in 60's. H. R. Shelton, Parma, Mich.

HOWDY'S HONEY—White, clover extracted sold out. We still have white, clover comb and light amber, mixed and amber buckwheat in new sixties. Howard Potter, Ithaca, Michigan.

HILTNER'S quality white clover honey is really a fine honey, produced in modern apiaries, extracted with finest equipment, packed in new cans. Prices on request. Ray Hiltner, North Creek, Ohio.

NEW YORK State comb and extracted honey, buckwheat and clover, any quantity, all size packages. Five-pound pails my specialty. Edward T. Cary, Midland Ave. and Tallman St., Syracuse, N. Y.

OUR NEW CROP Michigan clover honey is now ready for the market. New cans and cases. Let us contract with you for your season's supply. None better. E. D. Townsend & Sons, Northstar, Michigan.

NEW CLOVER comb, extra nice, 12 to 16 oz., mostly 15 oz. Very white, well capped, 24 sections, $3.00. Honey guaranteed to arrive in good condition by freight. Clarence Engle, Kearneysville, W. Va.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTE—We will not guarantee any honey buyer's financial responsibility and advise all beekeepers to sell for cash only, or on C. O. D. terms except when the buyer has thoroughly established his credit with the seller.

WANTED—White and light amber extracted honey. George Eykamp, Cuyahoga Falls, Ohio.

WANTED—White honey in new 60's. Mail sample and price. Alexander Company, Rt. 3, Toledo, Ohio.

WANTED—White clover honey. New cans only. Clover Blossom Honey Co., 712 Kossuth St., Columbus, O.

WANTED—Large quantities of chunk comb in shallow frames; also section honey. Central Ohio Apiaries, Inc. Millersport, Ohio.

WANTED—Carlots honey, state quantity, shipping point and price. Mail sample. Bryant & Cookinham, Inc., Los Angeles, Calif.

WANTED—Comb, chunk comb, white and light amber extracted honey. Any amount. Central Ohio Apiaries, Millersport, Ohio.

HIGHEST cash returns made the day we receive your beeswax. Write for shipping tags and quotations. Walter T. Kelley Co., Paducah, Ky.

CASH PAID FOR carloads and less than carloads of extracted honey. Send sample and best price. C. W. Aeppler Company, Oconomowoc, Wis.

WANTED—White and amber extracted Honey, any quantity, also Beeswax. Write The Fred W. Muth Co., Pearl & Walnut Sts., Cincinnati, Ohio.

FOR SALE

QUEEN PAINTING OUTFITS, $2.00 postpaid. Southwick Apiaries, Waban, Massachusetts.

WAX WORKED into medium brood foundation for 15c pound. 100 pounds, $11.00. Thin super, 22c. Fred Peterson, Alden, Iowa.

COMB HONEY SECTIONS—$7.50 per thousand. Prompt shipment. Satisfaction guaranteed. References satisfied users. Harold M. Case, Pierpont, Ohio.

WRITE FOR CATALOG. Quality bee supplies at factory store prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries, Onsted, Michigan.

ATTRACTIVE prices on bee supplies and comb-foundaton. Send for catalog. Saves you money. The Fred W. Muth Co., Pearl & Walnut Sts., Cincinnati, Ohio.

COMB FOUNDATION at money-saving prices. Plain, wired and thin section. Wax worked at lowest rates. Comb and cappings rendered. E. S. Robinson, Mayville, N. Y.

CARTONS for Cut Comb Honey. New attractive designs with your name and address. Low prices. Fast service. Samples on request. May Carton Co., Box 257, Traverse City, Michigan.

ELECTRICAL honey uncapping one-Volt knife transformer, 110-120 Volt 60 cycle, blades are exchangeable 6" to 12". Actual work proved this is the safest and best knife, $10.00. Paul Krebs, 8000 Fulton Ave., Detroit, Mich.

FOR SALE—Fine quality queen mailing cages; Root quality bee supplies; both comb and extracted honey. Orders filled promptly. Write us or drive over M53, fifty miles north of Detroit. Hamilton Bee Supply Co., Almont, Michigan.

FOR SALE—You will make a big cash saving by letting us work your wax into either plain or wired foundation. Send us a list of your needs for our lowest, early order discount prices. We manufacture a complete line of bee supplies. WALTER T. KELLEY CO., Paducah, Ky.

BEES AND QUEENS FOR SALE

ITALIAN QUEENS. W. G. Lauver, Middletown, Pa.

SILVER RUN QUEENS are sterling. Try them. W. E. Streetman, Midland, Ga.

FOR SALE—Italian queens, 40 cents each. Graydon Bros., Route 2, Greenville, Ala.

CHOICE untested Italian queens, 50 cents. WHITE PINE BEE FARMS, ROCKTON, PA.

CAUCASIAN package bees. Booking orders now for 1940 delivery. Bolling Bee Co., Bolling, Ala.

TEN ACRES, East coast, hundred colonies guaranteed healthy Italians, five tons honey in comb and extracted, ton half truck, $1500. P. D. Shuping, Sharpes, Florida.

California Crop Conditions

A. L. Boyden

For the past 25 years, since the opening of the World War, California's honey, about 10% of the U. S. Crop, and the markets of the Pacific Coast have been closely scanned. Our markets here are a sort of guide to producers east. One reason for this is the fact that our orange honey is usually stored by the time the bees in the northern and eastern states are getting their first overhauling in preparation for building up for the summer flows.

1939 Production—First inquiries here are invariably about the orange honey crop. No one knows exactly, but this production being limited to a well-defined area within this state well-informed observers can make a very close estimate. A 7-year average California crop from all sources is about 15½ million pounds, of which the orange honey would be about 4 million pounds. This year's estimate of the orange honey is 1½ million pounds, or about a 40% crop. Producers reports vary from 10% to 50%. The showing made by sage is not so good. Reports from producers vary according to their location ranging from a total failure to 15%. Buckwheat following the sage flow gives a better account. Best information to date says a 5% yield of sage, white and extra white, and a light amber sage-buckwheat 25%. Producers in the San Joaquin Valley and adjacent fields having access to alfalfa, cotton, blue curl and other miscellaneous sources say they will have to get along with 10% of last year's crop.

Better reports come in from the Blythe district, said to have harvested and sold a large crop. Imperial Valley is just closing up a very satisfactory season with a possible yield of 10% above normal. The thistle honey district is also reported better than last year. Summing up the various crops a total production in California this year may reach 9 or 10 million pounds.

Other Western States—The 11 western states including California produce on an average about 350,000 cases of honey from all sources. Because of the near failure in California and reports of poor flows in Arizona (mesquite and catsclaw) and some damage to fireweed in Oregon, and some deficiencies in Idaho, Colorado, and Washington, a reliable report places a total shortage in the 11 states of 150,000 cases.

California Stocks—It is reported by beekeepers, as well as packers and shippers, that very little orange or sage hon-

(Continued on page 656)

Another month has passed and we still don't have the

BULL

But we do have those good IMPORTED strain ITALIAN QUEENS. They have a longer span of life, are good winterers and produce better than the average strain of bees.

LAST CALL FOR 1939—

50c each, less quantity discount.

Rossman & Long

Box 133 **Moultrie, Ga.**

"She-suits-me" queens, 3-banded Italians, most excellent strain: One queen, 75c; 3 queens, $2.00. Stamps accepted for single queen.

Koolairy veil, $1.50 postpaid, SAFIN queen cage, $1, for ten; 15c for one.

ALLEN LATHAM
Norwichtown, Conn.

A Good Rule to Go By

Buy your Italian bees and queens from

ALABAMA APIARIES
Mt. Pleasant, Alabama

2-lb. package with queen,	$1.75
3-lb. package with queen,	2.25
Select untested queens, each	.50

Write us for liberal discounts.

QUEENS

Three banded Leather-colored Italians

50c each. Lots of 10, 40c each. Lots of 100, 35c each.

The Crowville Apiaries
Rt. 1. **Winnsboro, La.**

HAVE 200 colonies of bees to place on shares in Minnesota. M. C. Berry, Birchwood, Wis.

YOUNG wintered queens for Spanish customers. Send order to D. W. Howell, Shellman, Georgia.

CAUCASIAN Package Bees. Booking orders now for 1940 delivery. P. B. Skinner Bee Co., Greenville, Ala.

ITALIAN queens. N. J. Experiment Station stock, selected, carefully reared, 75c each. Circular. E. G. Carr, Pennington, N. J.

FOR SALE—60 colonies in new two-story hives. Make offer. Certificate of inspection furnished. Box 2, Gleanings, Medina, Ohio.

CAUCASIAN QUEENS until Nov. 1st, one, 50c; ten, $4.50; twenty-five, $10.00. Safe arrival. Lewis & Tillery Bee Co., R. 4, Box 132, Greenville, Ala.

PROFITABLE, established honey route in sunny California supplying 600 grocers and bakers. Retiring. Would consider trade for bee farm. Box 7, Gleanings, Medina, Ohio.

CAUCASIANS. MILLER BROTHERS, Three Rivers, Texas. Oldest exclusive Caucasian breeders west of the Mississippi. Packages with queens introduced. Write for Circulars.

REAL PETS—Brown's Stingless Bees. Good honey gatherers, non-swarmers. Season's price, $1.00 for a queen, over 10, 90c each. Brown's Apiary, Cape May Court House, N. J.

FOR SALE—20 colonies Italian bees in 10-frame Standard hives with food chambers. Good stock young queens, wired combs. Guaranteed no disease. Reason for sale: advanced in years. Further information on request. F. Schedeter, Sumner, Iowa.

FOR STRONGER COLONIES, bigger honey crops, and gentler bees, try our prolific well-bred 3-banded Italian queens used for years by leading beekeepers of the U. S. and Canada. Select young laying queens, 50 cents each; ten, 45 cents each; twenty or more, 40 cents each. Prompt deliveries, no disease. We have one of the largest best equipped queen rearing places in the South. H. C. Short, Fitzpatrick, Ala.

MISCELLANEOUS

READ MICHIGAN BEEKEEPER. Devoted to Improvement of the Honey Market. One year, 50c. Single copy, 10c. Published bimonthly at 406 E. St. Joseph St., Lansing, Mich.

THE BEE WORLD—The leading journal in Great Britain and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy, post free, 12 cents stamps. Membership in the Club, including subscription to the paper, 10/6. The Apis Club, L. Illingsworth, The Way's End, Foxton, Royston, Herts, England.

THE INDIAN BEE JOURNAL—The only bee journal in India. Sample copy free. Yearly 7c.6d. Apply Editor, Indian Bee Journal, Jeolikote, Dist. Nainital, U. P. India.

DAIRY GOATS

DAIRY GOAT JOURNAL, Dept. 919A, Fairbury, Nebr., (monthly magazine, $1.00 yearly), gives complete information. Introductory 6 months, 25c. Literature FREE.

Honey Labels

Write for prices and samples

The A. I. Root Co., **Medina, Ohio**

QUEENS

Those Good Three-banded Italians

You still have time to get a good queen in those colonies for winter. They will make a difference in your honey crop next year.

—Prices—
Mated Italian Queen 50c

15% discount to dealers

Clipped or by air mail at no extra cost

Also, CYPRESS BEE SUPPLIES
Write for Catalog

THE STOVER APIARIES
Mayhew, Miss.

For Over 50 Years

Beekeepers in many lands have been pleased with this most important tool in Beekeeping. Your Bingham Smoker is offered for sale by numerous dealers.

INSIST ON THE BEST

Manufacturers of a complete line of Honey Extractors, one for every requirement. Send for printed matter.

A. G. WOODMAN COMPANY
GRAND RAPIDS, MICH.

MERRILL BEE COMPANY
Italian Bees and Queens
"Mississippi's Oldest Shippers"
Queen breeders for 29 years
Bucatunna, Miss.

MOISTURE IN THE BEEHIVE

(Continued from page 613)

changed. Only one thing will do this and this is the promise of financial gain. If the top-entrance can produce more honey or the same amount easier or cheaper then it will be generally adopted and not before. That such an attainment is well within possibility seems entirely reasonable. To obtain the correct answer will require time and the consideration and energies of many thinking beekeepers. This is an old method and after all a very good one. What do you think?

Caldwell, N. J.

QUEENS

while they last 40c each. Booking orders for package bees and queens for 1940.

Safe arrival and satisfaction guaranteed.

W. O. GIBBS **Brookfield, Ga.**

Assure yourself of the best in bees and queens, also the most in honey and profits. Use our bees and queens in 1940.

N. B. SMITH & COMPANY
Calhoun, Alabama

LOOK Three-banded Italian bees and queens that are real honey gatherers and very gentle to work with. They work fine in cool damp weather. Health certificate with each shipment. Satisfaction Guaranteed.

ALAMANCE BEE COMPANY
Geo. Elmo Curtis, Mgr.
Graham, N. C.

MACK'S QUEENS
(They Speak for Themselves)
List your orders for 1940.
We guarantee to please you.
HERMAN McCONNELL
Robinson, Rte. 2. Illinois

PATENTS & TRADEMARKS
Williamson & Walton
Munsey Building
Washington, D. C.

WHEN WRITING TO ADVERTISERS, MENTION GLEANINGS

PROGRAM AT VICKSBURG, MISS.

(Continued from page 643)

tions, Sears, Roebuck and Co., Atlanta, Georgia.

10:45—The Evolution of Foundation, G. H. Cale, American Bee Journal, Hamilton, Illinois.

11:10—Work of the American Honey Institute in 1939, Mrs. Harriett M. Grace, Director, Madison, Wisconsin.

11:35—Suggestions for Boosting Our Industry, M. J. Deyell, Gleanings in Bee Culture, Medina, Ohio; Appointment of Committees; Announcements.

12:00—Lunch.

P. M.

1:30—Beekeeping for Orchard Pollination, George H. Rea, Extension Specialist in Apiculture, Cornell University, Ithaca, New York.

2:00—Factors Affecting Queen Supersedure, Warren Whitcomb, Southern States Bee Culture Laboratory, Baton Rouge, Louisiana.

2:30—Round-Table Discussion of Queen Rearing Methods. Leader, E. Oertel, Southern States Bee Culture Laboratory, Baton Rouge, La. All queen breeders invited to participate in the discussion.

3:30—After the Marketing Agreement, What? Round-table discussion by package shippers, opened by J. M. Robinson, Manager, Bee Marketing Agreement, Auburn, Alabama.

5:00—Recess.

7:30—Meeting of Mississippi Beekeepers' Association.

8:00—Annual Meeting of Goofy Beekeepers and Tellers of Tall Tales, Ned Prevost, Chief Narrator. Assistant Prevaricators: Cliff Muth, Robert Foster, Guy LeSturgeon, Tom Atchison, Alonzo McKay, Bill Anderson.

Tuesday, October 31

A. M.

9:30—Honey Marketing in Louisiana, E. C. Davis, Extension Bee Specialist, Baton Rouge, Louisiana.

9:45—Reports on Inspection Activities from all States Represented by Official Inspectors. Leader: Robert E. Foster, Gainesville, Florida.

10:15—A Proposed Model Apiary Law, Submitted by J. I. Hambleton, Apiculturist, Bureau of Entomology and Plant Quarantine, Washington, D. C., Discussion Leaders: James E. Starkey, President, Apiary Inspectors of America, Indianapolis, Indiana; E. C. Bessonet, Garon Bee Company, Donaldsonville, Louisiana.

11:00—The South's Transition from Box to Frame Hives, E. S. Prevost, Extension Bee Specialist, Clemson, South Carolina.

11:15—Key Problems of Southern Producers, A. D. Hiett, Lynchburg, Virginia.

11:30—Extension Problems in Beekeeping, George H. Rea, Ithaca, New York.

11:45—Report of Committees; Election of Officers; Selection of Next Meeting Place; Announcements.

12:00—Lunch.

P. M.

2:00—Sight-seeing trips through Vicksburg National Park, to Federal Waterways Experiment Station, and other points of interest.

7:00—Banquet—E. G. LeSturgeon, Toastmaster. Adjournment.

BETTER BRED QUEENS Three-banded Italians

Prepare for next year's crop, by requeening with our better bred stock. They have been tried by thousands and have proved satisfactory. 3 queens for $1.00.

CALVERT APIARIES, CALVERT, ALABAMA

CALIFORNIA CROP CONDITIONS

(Continued from page 653)

ey (white grades) is left in producers' hands. Of other crops, such as buckwheat-sage, Imperial Valley alfalfa, thistle honey, and minor sources, a considerable quantity has not been moved.

Packers Stocks—Los Angeles and other nearby packers are reported to have secured fairly adequate tonnage for fall and winter packing, although some having failed to get the required amount of orange will probably have to substitute other choice honey, possibly thistle and clover.

Warehouse Stocks—At this season of the year public warehouses of Los Angeles and nearby places are often literally bulging with honey. Diligent inquiry fails to reveal such stocks this year.

Local Demand—Metropolitan Los Angeles markets, usually active the entire year, appear to have taken a downward turn the past year. Various reasons are assigned, such as hot weather, etc. However, two packers interviewed this morning report a very decided upturn in grocer's orders for the 5-lb. size, which is a large seller here, and highly competitive. No reported increase in demand for the smaller sizes in glass.

Eastern—Carlot shippers report a considerable increase in inquiries the past week from eastern buyers. (This would be expected, war or no war.) There is considerable difficulty just at present in developing carload business as producers are naturally uncertain of today's offers.

A good volume of carlot business could be done right now at a fair advance over last month's prices, but a new high offer today seems to inspire a fear in the producer's mind that he should hold for higher prices. Therefore very little carlot shipping just now.

Export Demand—If it was expected that a declaration of war in Europe would bring a feverish demand for American honey the past two weeks dispels that idea. Men who were active in the honey markets here 25 years ago see a very different picture today. For one thing sugar was short and honey stocks

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TRICKS WITH JELLY

(Continued from page 618)

hot oven, 500 degrees F. for 15 minutes; reduce heat to moderate, 350 degrees F. and roast covered 1½ hours or until nearly tender. Baste frequently with a mixture of 4 tablespoons of butter and ⅔ cup of hot water. Uncover and spread with ½ cup of red currant jelly, which has been forced through a ricer or sieve. Roast chicken uncovered 30 minutes longer. Baste frequently until well glazed.

Three-Bite Pies

Make your richest, flakiest pie crust, roll it out thinly and cut into small rounds. Prick half of the rounds with a fork and using a thimble, cut a hole in the other half of the rounds, exactly in the center of each. Bake in a quick oven, 400 degrees F. Drop generous dabs of honey jelly on the pricked rounds, cover with "holed" rounds pressing together so the jelly fills the holes.

Glazed Onions

Peel 8 medium-sized onions and cook in salted boiling water until just tender—not over-done. Fry 4 strips of bacon until crisp; drain off most of the fat. Chop bacon and return to the skillet, adding 1 tablespoon of water and 3 tablespoons of honey peach jelly. Simmer until the jelly is dissolved. Add the onions and cook over low heat for about 5 minutes, or until the onions are well glazed, basting constantly.

Jelly Glazed Bananas

Skin 3 bananas and cut in half lengthwise. Place in buttered glass baking dish, cut side down. Put ½ cup of strawberry or raspberry honey jelly through a ricer or sieve, add 1 tablespoon of lemon juice and spread on the bananas. Bake, uncovered, in a moderate oven, 350 degrees F. 20 to 25 minutes, basting frequently.

Aurora, Nebr.

CALIFORNIA CROP CONDITIONS

(Continued from page 656)

only fair. Today Great Britain will look first to her own honey producing dominions particularly Australia, New Zealand, and Canada. Then Canada—except the provinces of Ontario and Quebec—produced very little honey and great quantities of honey from eastern U. S. went into Canada's western provinces. Today all Canada is a large producer and is looking for export markets. Reports believed to be quite authentic indicate a carry-over of Canadian 1938 crop in excess of 5,000,000 pounds, and an excellent 1939 crop. Any large demand from Great Britain doesn't seem likely. France or Italy might increase their buying of our honey but so many restrictions as to shipping, embargoes, etc., make this also improbable. Germany will probably be supplied by Soviet Russia. Current opinion here says no upturn in export of U. S. honey.

Current Prices—Before this is read by beekeepers the picture may change completely, so any reference to prices is to be regarded as of the middle of September.

First, packers here with few exceptions have not raised their prices as yet, and their prices are very low. They are waiting a bit to see what develops, but are careful not to accept too large orders. The vagaries of flour and sugar, up one day and down the next, suggest caution to avoid a demoralized market. A report just reached me of the purchase by a packer of a good light amber honey at 4 cents per pound. Large stocks off sage-buckwheat or Imperial Valley honey are reported held at $5.50-$6.00 per case.

Outlook—Even with a reported shortage of western honey well-informed men here believe there will be no spectacular change in honey prices. Marked advances, if any, will develop slowly. One man recalls his former experiences in times of shortage. Especially near the close of the last war when he believed there was no more honey to be had. To his surprise, and relief, carload after carload appeared in such quantities as to amply care for his needs. The only safe comment today is, "Time will tell."

Alhambra, Calif.

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XUM

Seven Governors favor "Honey Week" Oct. 23-30

Mrs. Harriett M. Grace, Director of American Honey Institute office, Madison, Wisc., has sent us copies of the following letters which will speak for themselves. This represents one of the many things Mrs. Grace is doing for our industry:

Dear Mrs. Grace:

I have your letter of August 4, in regard to proclaiming the week of October 23 to 30 as Honey Week for the State of Idaho. We people in Idaho are very proud of our honey and I am told that Idaho honey coming from the bloom of the sage brush, which is one of the most widely distributed of all Idaho plants, brings premium prices in the market centers throughout the world.

I will be very pleased to cooperate with you to the extent of proclaiming October 23 to 30 as Honey Week for the State of Idaho.

Sincerely yours,
C. A. Bottolfsen
Governor of Idaho

Dear Mrs. Grace:

Governor Carr asked me to tell you that he will be glad to issue a proclamation for Honey Week.

We have lots of honey producers in Colorado, and I am sure you will find all of us happy to cooperate with you.

I suggest that you send me a copy of the proclamation that you desire.

Yours very truly,
William S. Hill
Secretary to Ralph L. Carr
Governor of Colorado

Dear Mrs. Grace:

Thank you for your kind letter of August 4 proposing a proclamation to designate a Honey Week for the State of Iowa during October.

I appreciate your suggestion very much and will file it for consideration shortly before the date you mention.

With best wishes,
Sincerely yours,
Geo. A. Wilson
Governor of Iowa

My dear Mrs. Grace:

I have your letter, and shall be glad to cooperate in the observance of "Honey Week".

Sincerely yours,
A. H. Moore
Governor of New Jersey

Dear Mrs. Grace:

In acknowledgment of your letter of August 4th, relative to National Honey Harvest Week which will be held in October; most of our proclamations are authorized by legislative act only, and Governor McMullen has deemed it unwise to deviate from this ruling. We will, however, be glad to give the affair and the time stated in your letter publicity in our State papers.

Yours very truly,
E. J. Newkirk
Sec'y to R. C. McMullen
Governor of Delaware

Dear Mrs. Grace:

It is a distinct pleasure for me to call the attention of all of my fellow citizens to the week of October 23 which has been designated by the American Honey Institute as "National Honey Harvest Week."

Beekeepers in this State will be glad to cooperate with the eight hundred thousand others in our sister states in making this week a success.

Albert B. Chandler
Governor of Kentucky

Dear Mrs. Grace:

I received your letter, wherein you asked that I proclaim the week of October 23 to 30 as Honey Week, in the State of Nevada. I am sorry that I am unable to comply with this request due to the fact that the honey industry in this state is not large enough to make a proclamation.

However, I shall be glad to lend my aid in any other way to promote interest in this important food.

With kindest wishes, I am
Sincerely yours,
E. P. Carville
Governor of Nevada

American Honey Institute, Madison, Wisconsin

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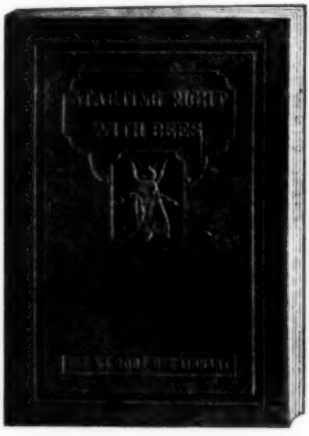

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